

SOLICITATION, OFFER AND AWARD		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		NG DO - C9	PAGE 1 OF PAGE(S) 63
2. CONTRACT NO. NAS1-00140	3. SOLICITATION NO. 1-47-CG.0017	4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)		5. DATE ISSUED 1/18/2000	6. REQUISITION/PURCHASE NO. CG.0017
7. ISSUED BY National Aeronautics and Space Administration Langley Research Center Hampton, VA 23681-2199		8. ADDRESS OFFER TO (If other than Item 7) Building 1195B, Room 125 NASA, Langley Research Center 9A Langley Boulevard, Hampton, VA 23681-2199			

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder"

SOLICITATION

9. Sealed offers in original and 12 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in 9A Langley Boulevard, Building 1195B, Room 125 until 3 p.m. local time March 20, 2000. CAUTION LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME Carolyn A. Wells	B. TELEPHONE NO. (NO COLLECT CALLS) AREA CODE NUMBER EXT. 757 864 - 2529	C. E-MAIL ADDRESS c.a.wells@larc.nasa.gov
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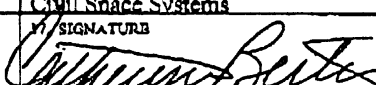
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OFFER (Must be fully completed by offeror)


NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within 90 calendar days (60 calendar days unless a different period is inscribed by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8)	10 CALENDAR DAYS (%) 0%	20 CALENDAR DAYS (%) 0%	30 CALENDAR DAYS (%) 0%	CALENDAR DAYS (%) 0%
14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments in the SOLICITATION for offerors and related documents numbered and dated:	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE
	1	1/28/00	3	3/2/00
	2	2/22/00		

15A. NAME AND ADDRESS OF OFFEROR CODE 92-645-1519 FACILITY 13993 Ball Aerospace & Technologies Corp. P.O. Box 1062 Boulder, CO 80306-1062	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print) Catherine Bertram Director, Business Management Civil Space Systems
15B. TELEPHONE NUMBER AREA CODE 303 NUMBER 939 EXT. 6729	17. SIGNATURE 
<input checked="" type="checkbox"/> 15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE.	18. OFFER DATE 3/10/2000

AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT \$10,000	21. ACCOUNTING AND APPROPRIATION RFJ.1120; R22919; 25870210200 (Complete)
22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304(c) () <input type="checkbox"/> 41 U.S.C. 253(c) ()	23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM G.5
24. ADMINISTERED BY (If other than Item 7) CODE	25. PAYMENT WILL BE MADE BY Financial Management Office, MS 175 Langley Research Center Hampton, VA 23681-2199	26. AWARD DATE 9-13-00
26. NAME OF Contracting Officer (Type or print) MARY JANE YEAGER	27. UNITED STATES OF AMERICA  (Signature of Contracting Officer)	

IMPORTANT: Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

AUTHORIZED FOR LOCAL REPRODUCTION
Previous edition not usable.

33-133

STANDARD FORM 33 (Rev. 9-97)
Prescribed by GSA FPMR (48 CFR) 53.114(c)

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PART I - THE SCHEDULE

Section B - Supplies Or Services And Prices/Costs

B. 1 SUPPLIES AND/OR SERVICES TO BE FURNISHED

The Contractor shall, to the extent specified herein, furnish all personnel, facilities, services, supplies, equipment and materials necessary for Space Technology Research and Development as specified in Task Orders issued pursuant to Clause G.7, entitled "Task Ordering Procedures." The type of work to be performed under such Task Orders is limited to the types of work incorporated by Clause C.1, Statement of Work.

B. 2 INDEFINITE DELIVERY/INDEFINITE QUANTITY CONTRACT

Pursuant to the Federal Acquisition Regulation (FAR) Parts 16.501-2 and 16.504, this contract is defined as an indefinite quantity type. The contract provides for an indefinite quantity, within stated limits, of supplies or services to be furnished during a fixed period, with deliveries or performance to be scheduled by placing orders with the Contractor. The total minimum and maximum dollar value of supplies or services to be acquired under the contract are set forth below:

Contract Minimum: The Government will issue Task Order(s) (TOs) under this contract which provide for a minimum of \$10,000 in services. (Each Awardee)

Contract Maximum: The Government issued Task Order(s) under this contract shall not exceed a maximum of \$45,000,000 in services for the entire period of performance. (Total for all Awardees)

B. 3 CONTRACT FUNDING INFORMATION

Funds for task orders are obligated on each task order.

A. In accordance with the Section I Clause, 52.232-22, Limitation of Funds, each cost-type task order shall specify the total amount allotted by the Government for purposes of payment of cost, exclusive of fee. In addition, each cost-type task order which includes fee shall specify an additional amount as obligated for payment of fee.

B. Section I Clause 1852.232-77, Limitation of Funds (Fixed-Price Contract) (Mar 1989) may apply to individuals to fixed price task orders issued under this contract.

B. 4 TASK ORDER TYPE

Task orders will be issued either on a firm-fixed price (FFP) basis or cost reimbursable (CR) basis.

B. 5 CONSIDERATION

(a) The total fixed price will be set forth on individual FFP task orders.

(b) The total estimated cost will be set forth on individual CR task orders.

(c) The total estimated cost and incentive fee will be set forth on individual cost-plus incentive fee CPIF task orders.

PART I - THE SCHEDULE

Section C - Description/Specifications/Work Statement

C.1 STATEMENT OF WORK -- SPACE TECHNOLOGY RESEARCH AND DEVELOPMENT

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Space Technology Research and Development Statement of Work

1.0 Introduction

This Statement of Work (SOW) describes the contractor(s) efforts required to provide the following:

- Technology and Mission Concept Development,
- Advanced Prototype Development, and
- Technology/System Development and Demonstration

The effort requires the analysis and development of instrument and space flight system technologies to support NASA's space flight and science missions. This is a Statement of Work for an Indefinite Delivery, Indefinite Quantity (IDIQ) task order contract in which specific mission, analysis, and technology development requirements generally described within this Statement of Work will be specifically defined in task orders (TOs) issued for each specific effort.

2.0 Scope

The scope of this SOW will include the following three work elements that will allow NASA to conduct space technology research and development, and obtain products ranging from analysis of basic principles, technical and mission requirements, through the development of technology demonstration hardware. The contractor(s) will be required to provide all resources (except as may be expressly stated in the TO as furnished by the Government) necessary to perform all work elements in this SOW. A more detailed description of the work required to accomplish the three work elements is given in Section 3.0.

- Work Element I- The Technology and Mission Concept Development work element consists of the conceptual analysis of proposed missions, technologies and technology insertion criteria that would enhance or enable a mission through the use of a new or improved flight system/component or instrument. This includes the development of mission requirements, operations, instrument/system requirements, modeling and simulations, conceptual design and analysis including mechanical, thermal, and electrical interface definition will be required. In addition, cost and schedule estimates for the design, development, integration, test, operations and data analysis for the flight system, instrument or component along with the needed ground support equipment will be required.
- Work Element II- The Advanced Prototype Development work element consists of rapid prototyping/breadboarding and/or analysis of flight systems, and technology demonstrators or instruments that will provide sufficient data for an intelligent decision to proceed to flight hardware. This includes the design, development, integration, testing, operations and validation of components, systems, and instrument technologies to reduce the technical and programmatic risks for development of flight and science missions. Component, subsystem and instrument prototype performance must be validated in an appropriate environment that may include laboratory, field, aircraft, and/or balloon testing and evaluation. At the conclusion of this effort, the contractor(s) may be required to develop detailed cost and schedule estimates for development and deployment of the prototype design in a flight mission.
- Work Element III- Technology/System Development and Demonstration includes the actual component, instrument, or system development and flight test that demonstrates that a technology or system is ready for mission use. This element requires the design, development, integration, testing (performance and environmental), calibration, and operation of flight components, subsystems or systems. The development of the plans, procedures and testing for the integration of the component or subsystem into the flight or instrument system, and on-orbit operation, testing and calibration will be required. In addition, the design, development and fabrication of all ground support equipment are included.

The TO's will solicit research and development efforts according to one of the three work elements described above to support the following technology product lines:

- Breakthrough Materials
- Lightweight and Multifunctional Structures
- Deployable and Inflatable Structures
- Structural Dynamics and Geometry Control
- Next Generation Design and Analysis Tools
- Advanced Instruments
- Avionics
- Onboard Data Processing

The objectives of these technology product lines are given in Section 4.

3.0 Work Requirements

The contractor(s) shall have the ability to perform work for all three work elements and all technology product lines as described below, as authorized in task orders.

The contractor(s) shall provide the program management required for the control of the effort for each task order. The contractor(s) shall provide a program management system that allows timely insight into the status of each task order, as well as, technical and programmatic performance of all of the contractor's responsibilities and activities performed under the task order.

The contractor(s) shall implement a product assurance system, as appropriate, for task orders involving hardware and/or software development. The contractor's existing product assurance plans, procedures, formats, and documentation systems that support the development of reliable space products are acceptable if comparable to LAPG 5300.1, "Space Product Assurance" as determined by the Government.

The SOW for each TO will include a Government provided description of the task order's technical requirements, specifications, Government provided property or data, and specified technology readiness level (TRL) the contractor(s) shall achieve at the conclusion of the effort. TRL's reflect the relative maturity of a given technology on a scale of 1 to 9. The table below provides the attributes for each TRL level. In addition, schedules for task order products; design reliability goals, success criteria and product assurance requirements; description of required reviews; and description of required written reports will also be provided. The contractor(s) shall respond with elements necessary to comply with the requirements of the specific TO along with cost and schedule information for performing the TO. The specific guidance for issuing task orders is set forth in the contract schedule at G.7, Procedures for Issuing Task Orders.

Technology Readiness Level Table

Level	Attribute
1	Basic principles observed and reported
2	Technology concept and/or application formulated
3	Proof of concept for critical analytical or experimental function or characteristics
4	Component and/or breadboard validation in laboratory
5	Component and/or breadboard validation in relevant environment
6	System/subsystem model or prototype demonstration in a relevant environment
7	System prototype demonstration in a space environment
8	Actual system completed and flight-qualified through test and demonstration
9	Actual system flight proven through successful mission operations

3.1 Technology and Mission Concept Development Work Element

This work element provides the systems analysis and life-cycle costing analysis necessary to produce feasible technology and mission concepts and explore a wide range of implementation options to meet program and project objectives. This work element normally describes work at a TRL of 1-3. The following provides the work requirements for this work element.

3.1.1 Detailed Work Element Description

This work element consists of analytical support in the development of mission concepts and technologies. This includes, but is not limited to, advanced concept development; trade studies; life cycle cost estimates and schedules; and requirements definition. Mechanical, thermal, optical, and electrical analyses as well mathematical modeling and simulations, and proof of concept physical models in support of concept development will be required. In addition, programmatic (cost, schedule, and risk) estimates for the design, development, integration, testing, operations, and data analysis of proposed mission and technology developments are required.

- **Requirements Definition**
The contractor(s) shall carry forward concepts developed under the Advanced Concepts Development and Mission Definition to determine the specific system, subsystem and component performance metrics required for their implementation. The contractor(s) shall develop functional and operational requirements, including cost, schedule, and risk estimates for component, system and mission concepts. The products of these activities are requirements documented as paper studies; including technology development plans and plans for inserting technologies into flight missions.
- **Advanced Concepts Development**
The contractor(s) shall support the generation of new component, system, and mission concepts. Driven by high-level science and applications research goals and system-level requirements, new component, system and architectural concepts shall be defined. The products of these activities are

concepts developed as paper studies or proof of concept for critical analytical or experimental function or characteristics.

- **Trade Studies**
The contractor(s) shall perform trade studies, including supporting analyses, among alternative component, system, and mission concepts to determine the concepts that will best meet the Government's requirements. Studies shall consider affordability, technology readiness, risk, schedule, and potential sources for technologies. The contractor(s) shall be capable of performing analyses to determine the optimum mission architecture including number of satellites; orbit location(s); types of sensors and sensor viewing geometry; etc. The products of these activities are documented as paper studies, including assumptions made and the analytical technique used.
- **Life Cycle Cost Estimates and Schedules**
The contractor(s) shall develop Life Cycle Cost (LCC) estimates and schedules for all phases of component, system, and mission concept developments. These must include estimates for program management; systems engineering; reliability and quality assurance (R&QA); documentation; reviews; travel; etc. to accomplish all program/project phases. LCC estimates shall include the direct, indirect, recurring, nonrecurring, and other related costs for all phases (design, development, production, operation, maintenance, support, and retirement) of the program/project.

The contractor(s) shall develop mission and instrument system concepts to support mission studies. The contractor(s) shall define the engineering requirements for candidate missions and instruments that meet the science objectives and measurement requirements as defined by the Government.

3.1.2 Reviews

The contractor(s) shall report task order status to the Government at periodic status reviews in order for the Government to assess the contractor's progress. The contractor(s) must also present the results of the overall task order to the Government at a final review. The Government will specify the timing, location, and objectives for each status review in the task orders.

3.1.3 Documentation

For each TO, the contractor(s) shall produce and deliver a written final report that documents the results of all analyses, trade-studies, mission and system requirements, conceptual designs, cost estimates, and schedules.

Status reports may be required depending on the scope and duration of the effort. The Government will provide the specific requirements for status reporting in each task order.

3.2 Advanced Prototype Development Work Element

The contractor(s) shall provide rapid prototyping/breadboarding of components and systems that will provide sufficient data for making an intelligent decision with respect to the risk and readiness for flight hardware development. This includes the design, development, integration, testing, operations and validation of components and systems to reduce the technical and programmatic risks for development of flight and science missions.

For advanced prototype system development, the Government will provide the science requirements (if applicable); system performance and functional requirements; and/or system conceptual design. The Government will also define the level of qualification and when appropriate the required validation approach (lab, field, aircraft, and/or balloon demonstration/testing).

This work element normally describes work at a TRL of 3-6. The following provides the work requirements for this work element.

3.2.1 Detailed Work Element Description

This work element consists of phased technology development projects involving the design, analysis, fabrication, integration, and test of prototype components and systems. The technology development project may involve one or more phases leading from proof-of-concept in the laboratory to demonstration of an advanced prototype in relevant environments.

The Government will provide the contractor(s) with the scope and objectives of the technology development project in the task order. The Government will also provide the contractor(s) with existing conceptual studies, analyses, and design drawings relevant to the particular technology development effort being requested, if applicable.

3.2.2 Systems Engineering

For advanced prototype development the necessary systems engineering required to ensure that the prototype system meets all performance, interface, and implementation requirements as specified in the task order shall be performed. The systems engineering effort shall comprise the analysis of system or component requirements; allocation of derived requirements to the system, subsystems and/or components; maintenance of critical interfaces; and verification of all defined and derived requirements. The contractor(s) systems engineering effort also includes system and/or component mathematical modeling and simulations that demonstrate the system meets all defined requirements. The models and simulations should be updated with refined subsystem and component performance data from analyses and/or testing to verify the system and/or component meets the requirements throughout the design and development effort.

3.2.3 Design, Fabrication, Integration, and Test

The contractor(s) shall be responsible for prototype design based on either a Government provided design concept or technical/performance specifications given in the task order.

The contractor(s) shall perform all necessary analyses to insure that the proposed design will meet the technical specifications. These analyses may include mathematical models, computer simulations, and hand calculations of structural, thermal, electrical, and/or optical performance.

The contractor(s) shall fabricate and assemble the prototype hardware using Government approved procedures for quality assurance. The contractor(s) shall select and use materials and parts for fabrication that meet reliability, space environment, and flight safety required as specified by the Government.

The contractor(s) shall conduct functional tests of hardware and software to verify that it meets the specified technical performance specifications. Testing may include, but not be limited to, structural qualification tests such as static load, random vibration, and modal survey; electrical qualification tests such as EMI/EMC; thermal qualification tests such as thermal-vacuum; and optical tests such as alignment verification.

3.2.4 Technology, Instrument, and System Demonstrations

The advanced prototype development project may include demonstration of component, subsystem, or system function in a laboratory environment, in a simulated space or aircraft flight environment, or in other ground-based tests to acquire engineering data and scientific measurements. These demonstrations will verify that the advanced prototype meets the specified requirements for system performance, and that it has attained a sufficient level of technology readiness to insure that follow-on flight hardware or experiment development can be successfully accomplished.

Demonstrations that may be required include, but are not limited to, subsystem or system operation during a thermal-vacuum test; structural deployment or mechanical function tests in a simulated zero-gravity environment; or acquisition of scientific measurements with a prototype instrument system in an aircraft, balloon, or field experiment.

3.2.5 Reviews

The contractor(s) shall report task order status to the Government at periodic status reviews in order for the Government to assess the contractor's progress. The contractor(s) must also present the results of the overall task order to the Government at a final review. The Government will specify the timing, location, and objectives for each status review in the task orders.

In addition to status reviews, the Government may require the contractor(s) to conduct or participate in design reviews, test reviews, and safety reviews as necessary to demonstrate that technical objectives and issues have been adequately addressed before proceeding with the next phase of the development project. The Government will specify the required reviews in the delivery order.

3.2.6 Documentation and Deliverables

The task orders will specify the documents and other deliverables that are required based on the scope of the work for that specific task order. Examples of the types of documentation and other deliverables that may be required include, but are not limited to, project status reports; mechanical and electrical design drawings; Computer Aided Design (CAD) models; mathematical models used for structural, thermal, and optical analysis; fabrication, assembly, and test procedures; software user guides and system/instrument operating instructions; and analysis and test reports.

The contractor(s) shall deliver the completed prototype hardware and software to the Government at the conclusion of the technology development project.

3.3 Technology/System Development and Demonstration Work Element

The contractor(s) shall design, fabricate, integrate, test and deliver advanced technology components/subsystems and systems to support space flight technology/protoflight demonstrations. The following provides the general work requirements for flight component/subsystem and system development and demonstration. This work element normally describes work at a TRL of 6-7.

3.3.1 Systems Engineering

For flight system development the necessary systems engineering required to ensure that the flight system meets all performance, interface, and implementation requirements as specified in the task order shall be performed. The systems engineering effort shall comprise the analysis of mission and flight system requirements; the allocation of derived requirements to mission, flight system, subsystems and components; establishment and maintenance of critical interfaces; and verification of all defined and derived requirements. The contractor(s) systems engineering effort also includes flight system mathematical modeling and simulations that demonstrate the system meets all defined requirements. The models and simulations should be updated with refined subsystem and component performance data from analyses and/or testing to verify the system meets the requirements throughout the design and development effort.

3.3.2 Design and Analysis

Preliminary and detailed design shall be performed. The contractor(s) shall conduct engineering analyses for flight component/subsystem development according to Government provided requirements. The Government will provide or approve detailed performance, functional, interface, and environmental requirements for each flight component/subsystem development effort. The contractor(s) must be capable of performing all appropriate structural, thermal, optical, electro-optical, electro-mechanical, and electronic analyses required to demonstrate that the component/subsystem design meets all requirements.

The contractor(s) shall perform preliminary and detailed design for flight system development according to Government requirements and specifications. The Government will provide the mission, performance, functional, interface, and environmental requirements and specifications in each task order. The contractor(s) shall

derive subsystem and component requirements from the Government provided system-level requirements and develop preliminary and detailed designs based on these requirements. The contractor(s) shall perform all required structural thermal, optical, electro-optical, electro-mechanical, and electronic analyses to demonstrate that the system will meet all requirements.

3.3.3 Fabrication, Integration, Test, and Calibration

The contractor(s) shall fabricate, integrate and test protoflight components/subsystems. The Government will specify or approve the testing specifications and requirements in each task order. The contractor(s) shall perform functional, performance, and environmental testing including, but not limited to, EMI/EMC, thermal vacuum cycling, random and/or sine vibration, and mechanical shock testing.

The contractor(s) shall fabricate, integrate, test, and calibrate protoflight systems. The Government shall define the mission specific reliability and quality assurance (R&QA), testing, and calibration requirements in the task orders. The contractor(s) shall perform functional, performance, and environmental testing including, but not limited to, EMI/EMC, thermal vacuum cycling, static load, random and/or sine vibration, and mechanical shock testing on protoflight systems. The contractor(s) shall perform the required system calibrations to determine actual system performance against the government-specified requirements. In order to support integration and testing, the contractor(s) shall define, design, fabricate, and test all ground support equipment required for each system development effort.

3.3.4 System Integration, Launch, and On-Orbit Verification

For flight component/subsystem development, the contractor(s) shall develop plans and procedures for integration and testing of the hardware and/or software with the protoflight system (i.e. subsystem, instrument, spacecraft, etc.) in coordination with the system developer. The contractor(s) shall support component/subsystem integration into the system and the initial functional and/or performance testing of the component/subsystem in the system with the flight system developer. The contractor(s) shall also support any component/subsystem anomaly resolution required during system level testing.

For protoflight system development, the contractor(s) shall develop plans and procedures, in coordination with the spacecraft and/or launch vehicle developers as appropriate, to perform integration and testing of all flight elements. This includes plans and procedures for integrated protoflight system/spacecraft and/or protoflight system/launch vehicle performance and environmental testing. The contractor(s) shall support the spacecraft and/or launch vehicle developers for all integrated system level testing including defining, designing, fabricating, and testing all ground support equipment specifically required for this activity.

The contractor(s) shall provide any unique plans, procedures, and ground support equipment required for launch site testing and support the carrier processor/developer for all launch site activities.

The contractor(s) shall develop plans and procedures for on-orbit performance verification and operations, and perform on-orbit verification of flight system performance and conduct operations related to on-orbit experimentation and technology validation as required. This includes initial on-orbit calibration of the system.

3.3.5 Reviews

The Government will specify the review requirements in each task order. The contractor(s) shall participate in Government reviews for protoflight component/subsystem and system development, such as:

System Requirements and Conceptual Design Review – the contractor(s) shall demonstrate a thorough understanding of the mission and system requirements and present a system conceptual design, including design trade-offs, that meets these requirements. The contractor(s) shall present the results of any analyses, modeling, and/or simulations to support their design concept. The contractor(s) shall also present the derived subsystem level requirements.

Preliminary Design Review – the contractor(s) shall demonstrate that all protoflight system and subsystem preliminary designs meet the requirements with acceptable risk and they are ready to start detailed design.

Critical Design Review – the contractor(s) shall demonstrate that all protoflight system and subsystem detailed designs meet the requirements with acceptable risk and they are ready to start fabrication, integration, and testing.

Pre-Environmental Review – the contractor(s) shall present the results of protoflight system integration and initial performance testing. The contractor(s) shall discuss all failures, anomalies, malfunctions that occurred during testing and the status towards resolution. The contractor(s) shall also present plans for system environmental testing.

Pre-Ship Review – the contractor(s) shall present the results of protoflight system environmental testing and the final performance test. The contractor(s) shall discuss all failures, anomalies, malfunctions that occurred during testing and the status towards resolution. The contractor(s) shall also present plans for shipping the system to the carrier processor's or developer's facility and integration of the protoflight system with the carrier.

Status Reviews – The contractor(s) shall report task order status to the Government at periodic Status Reviews in order for the Government to assess the contractor's progress in the design and analysis; fabrication; integration; and testing of the protoflight component/subsystem or system. The Government will specify the frequency and location of status reviews in the task order.

Final Review – The contractor(s) shall present the results of the overall task order for the Government at a Final Review at the conclusion of the on-orbit verification activities to review the on-orbit testing and calibration results against the requirements.

3.3.6 Documentation

The task orders will specify the documents and other deliverables that are required based on the scope of the work for that specific task order. Examples of the types of documentation and other deliverables that may be required include, but are not limited to, project status reports; mechanical and electrical design drawings; Computer Aided Design (CAD) models; mathematical models used for structural, thermal, and optical analysis; fabrication, assembly, and test procedures; software user guides and system/instrument operating instructions; and analysis and test reports.

The contractor(s) shall deliver the completed flight hardware and software to the Government at the conclusion of the technology development project.

4.0 Product Line Requirements

This requirement will be used to conduct research and development (R&D) of technologies in the following product lines. The contractor(s) shall have the ability to perform work in all three categories as defined in Section 2.0 of this SOW in support of all technology product lines.

4.1 Breakthrough Materials

The goal of the Breakthrough Materials product line is to develop innovative and high-performance material systems for future NASA missions. This product line includes, but is not limited to, low-cost, high-thermal conductivity materials for spacecraft radiators, electronic systems and laser diode thermal management; high-temperature structures and heat shields; materials and concepts for multifunctional structures; high-performance composite, polymer, and ceramic materials for low-coefficient-of-thermal expansion applications and/or use in extreme environments; smart materials for adaptive structures and motor-less actuators, and thermally-stable materials for optical mounts and precision mechanisms.

4.2 Lightweight and Multifunctional Structures

The goal of the Lightweight and Multifunctional Structures product line is to achieve a significant reduction in mass and volume of spacecraft through the development and highly-integrated modules that incorporate multiple functions and incorporate lightweight material systems. This product line includes, but is not limited to, highly-integrated multifunctional modules that incorporate structural, thermal, and electrical elements and lightweight materials; lightweight optical and structural components for compact instruments; sensorcraft technologies that tightly integrate compact instruments with spacecraft structures, and lightweight radiation shielding materials to protect humans and microelectronics from the hazards of electrons, protons, and galactic cosmic radiation.

4.3 Deployable and Inflatable Structures

The goals of the Deployable and Inflatable Structures product line are to enable missions requiring large apertures to be flown on smaller, lower-cost launch vehicles and to develop material systems to support inflatable habitats, solar sails, sunshades, solar concentrators, and other inflatable and gossamer structures. This includes, but is not limited to, the development of precision deployable structures for large apertures and the synthesis and characterization of new thin-film, space-durable polymer materials for improved lifetime and performance of inflatable structures.

4.4 Structural Dynamics and Geometry Control

The goal of the Structural Dynamics and Geometry Control product line is to conceive and develop compact and efficient sensors, actuators, and controllers. This product line includes, but is not limited to, the development of miniature motor-less actuators for optical positioning, instrument scanning, and shape control of telescope mirrors, the development of light-weight, low-cost, low-power, high-precision actuators for operation in spacecraft, cryogenic, and other extreme environments; the development of attitude determination and control systems for micro-spacecraft, and the development of robust, adaptive control systems for actively controlled mirrors and reflectors.

4.5 Next Generation Design and Analysis

The goals of Next Generation Design and Analysis is to lower the cost of space missions by reducing design cycle time by 50%, reducing testing requirements by 50%, reducing cost and risk through early comprehensive simulations, and by facilitating the introduction of new technology. The product line includes, but is not limited to, intelligent design and analysis tools to enable rapid assembly of spacecraft models; tools to allow collaboration in a virtual environment; high-fidelity tools for model-based performance; tools to perform system development and operations cost; and dependability verification of spacecraft and instrument components, subsystems, and systems.

4.6 Advanced Instruments

The goal of the Advanced Instruments product line is to develop and demonstrate new and innovative instrument concepts and prototypes that lower the cost and increase the capability of NASA missions. This product line includes, but is not limited to, technology for remote and in situ sensing of the Earth and other planets from spacecraft, aircraft, balloons, and other platforms. Typical instrument developments include active instruments such as LIDAR (Light Detection and Ranging) systems and passive electro-optic and microwave sensors and instruments such as Fourier transform and grating spectrometers and radiometers. Also included is the development of sensorcraft concepts (highly integrated instruments and spacecraft).

4.7 Avionics

The goal of the Avionics product line is to develop space-flight qualified electronic components and subsystems to enhance system performance and greatly reduce system size, weight, and power. Ultra-low power, radiation tolerant analog and digital components and subsystems; advanced spacecraft and instrument controllers;

sensorcraft attitude control; and mixed signal application specific integrated circuits for various applications are examples of technologies included in this product line.

4.8 Onboard Data Processing

The goal of the Onboard Data Processing product line is to develop technologies for real time, on-board processing of instrument data through the development of special purpose processors, and science algorithms and software to enable low-cost operations and increased timeliness of science and commercial data products. Onboard Data Processing technologies include, but are not limited to, digital signal processing hardware and software for autonomous, high rate data acquisition, processing, and cross/downlink; and the application of advanced ASIC technologies for development of special purpose flight processors.

PART I - THE SCHEDULE

Section D - Packaging And Marking

D.1 PACKAGING AND MARKING

(a) The Contractor shall preserve, pack, and mark for shipment all items deliverable under this contract in accordance with good commercial practices and in accordance with instructions that may be specified by the Government in authorized Task Orders. Shipments shall be preserved, packed and marked to ensure both acceptance by common carrier and safe transportation at the most economical rate(s).

(b) The Contractor's markings on shipping containers shall be clearly legible from a distance of 36 inches. The Contractor may mark by stencil, rubber stamp, or lacquer over a coated gummed label. Markings for reports and other documentation shall be as set forth in Exhibit A , Contract Documentation Requirements.

(c) The Contractor shall place identical requirements in all subcontracts.

PART I - THE SCHEDULE**Section E - Inspection And Acceptance****E.1 FINAL INSPECTION AND ACCEPTANCE (LaRC 52.246-94) (OCT 1992)**

Final inspection and acceptance of all items specified for delivery under this contract shall be accomplished by the Contracting Officer or his duly authorized representative at destination as specified in Task Orders.

PART I - THE SCHEDULE

Section F - Deliveries Or Performance

NOTE: THE USE OF THE F.1 OR F.2 CLAUSE WILL BE DETERMINED BY THE REQUIREMENTS SET FORTH IN THE INDIVIDUAL TO'S. CONTRACT LEVEL DELIVERABLES ARE SUBJECT TO CLAUSE 52.247-34.

F.1 F.O.B. DESTINATION (FAR 52.247-34) (NOV 1991)

(a) The term "f.o.b. destination," as used in this clause, means --

(1) Free of expense to the Government, on board the carrier's conveyance, at a specified delivery point where the consignee's facility (plant, warehouse, store, lot, or other location to which shipment can be made) is located; and

(2) Supplies shall be delivered to the destination consignee's wharf (if destination is a port city and supplies are for export), warehouse unloading platform, or receiving dock, at the expense of the Contractor. The Government shall not be liable for any delivery, storage, demurrage, accessorial, or other charges involved before the actual delivery (or "constructive placement" as defined in carrier tariffs) of the supplies to the destination, unless such charges are caused by an act or order of the Government acting in its contractual capacity. If rail carrier is used, supplies shall be delivered to the specified unloading platform of the consignee. If motor carrier (including "piggyback") is used, supplies shall be delivered to truck tailgate at the unloading platform of the consignee, except when the supplies delivered meet the requirements of Item 568 of the National Motor Freight Classification for "heavy or bulky freight." When supplies meeting the requirements of the referenced Item 568 are delivered, unloading (including movement to the tailgate) shall be performed by the consignee, with assistance from the truck driver, if requested. If the contractor uses rail carrier or freight forwarded for less than carload shipments, the contractor shall ensure that the carrier will furnish tailgate delivery, when required, if transfer to truck is required to complete delivery to consignee.

(b) The Contractor shall --

- (1)(i) Pack and mark the shipment to comply with contract specifications; or
- (ii) In the absence of specifications, prepare the shipment in conformance with carrier requirements;
- (2) Prepare and distribute commercial bills of lading;
- (3) Deliver the shipment in good order and condition to the point of delivery specified in the contract;
- (4) Be responsible for any loss of and/or damage to the goods occurring before receipt of the shipment by the consignee at the delivery point specified in the contract;
- (5) Furnish a delivery schedule and designate the mode of delivering carrier; and
- (6) Pay and bear all charges to the specified point of delivery.

F.2 F.O.B. DESTINATION, WITHIN CONSIGNEE'S PREMISES (FAR 52.247-35)(APR 1984)

(a) The term "f.o.b. destination, within consignee's premises," as used in this clause, means free of expense to the Government delivered and laid down within the doors of the consignee's premises, including delivery to specific rooms within a building if so specified.

(b) The Contractor shall -

- (1) (i) Pack and mark the shipment to comply with contract specifications; or
- (ii) In the absence of specifications, prepare the shipment in conformance with carrier requirements;
- (2) Prepare and distribute commercial bills of lading;
- (3) Deliver the shipment in good order and condition to the point of delivery specified in the contract;
- (4) Be responsible for any loss of and/or damage to the goods occurring before receipt of the shipment by the consignee at the delivery point specified in the contract;
- (5) Furnish a delivery schedule and designate the mode of delivering carrier; and
- (6) Pay and bear all charges to the specified point of delivery.

F.3 DELIVERY

A. The documentation and reports required by each Task Order produced under this contract shall be delivered f.o.b. destination in accordance with the schedule specified therein.

B. The reports and documentation required by Section J. Exhibit A, Contract Documentation Requirements; shall be delivered at the times and to the places specified therein.

F.4 PERIOD OF PERFORMANCE - TASK ORDERS (LaRC 52.211-112) (APR 1998)

A. The period for issuance of Task Orders is 60 months from October 1, 2000.

B. Any Task Orders issued prior to the expiration of the period for issuance of Task Orders shall be completed, subject to the limitations specified in FAR 52.216-22, Paragraph (d), provided the Contractor will not be required to perform beyond six months after the period of issuance of task orders.

F.5 PLACE(S) OF PERFORMANCE (LaRC 52.211-98) (OCT 1992)

The place(s) of performance shall be:

The Contractor and/or subcontractor's facility; and other sites as may be designated by Task Order.

PART I - THE SCHEDULE

Section G - Contract Administration Data

G.1 DESIGNATION OF NEW TECHNOLOGY REPRESENTATIVE AND PATENT REPRESENTATIVE (NASA 1852.227-72) (JUL 1997)

(a) For purposes of administration of the clause of this contract entitled "New Technology" or "Patent Rights - Retention by the Contractor (Short Form)", whichever is included, the following named representatives are hereby designated by the CO to administer such clause:

Title	Office Code	Address (including zip code)
New Technology Representative	212	NASA, Langley Research Center Hampton, VA 23681-2199
Patent Representative	212	NASA, Langley Research Center Hampton, VA 23681-2199

(b) Reports of reportable items, and disclosure of subject inventions, interim reports, final reports, utilization reports, and other reports required by the clause, as well as any correspondence with respect to such matters, should be directed to the New Technology Representative unless transmitted in response to correspondence or request from the Patent Representative. Inquiries or requests regarding disposition of rights, election of rights, or related matters should be directed to the Patent Representative. This clause shall be included in any subcontract hereunder requiring a "New Technology" clause or "Patent Rights - Retention by the Contractor (Short Form)" clause, unless otherwise authorized or directed by the CO. The respective responsibilities and authorities of the above-named representatives are set forth in 1827.305-370 of the NASA FAR Supplement.

G.2 SUBMISSION OF REQUESTS FOR PROGRESS PAYMENTS (NASA 18-52.232-82)(MAR 1989)

NOTE: THIS CLAUSE IS APPLICABLE TO FIXED-PRICE TASK ORDERS.

The Contractor shall request progress payments in accordance with the Progress Payments clause by submitting to the Contracting Officer an original and two copies of Standard Form (SF) 1443, Contractor's Request for Progress Payment, and the Contractor's invoice (if applicable). The Contracting Officer's office is the designated billing office for progress payments for purposes of the Prompt Payment clause.

G.3 NASA CONTRACTOR FINANCIAL MANAGEMENT REPORTING (NASA 1852.242-73) (JUL 1997)

NOTE: THIS CLAUSE IS APPLICABLE TO COST TYPE TASK ORDERS, SEE EXHIBIT A - CONTRACT DOCUMENTATION REQUIREMENTS

(a) The Contractor shall submit NASA Contractor Financial Management Reports on NASA Forms 533 in accordance with the instructions in NASA Policy Guidance (NPG) 9501.2, NASA Contractor Financial Management Reporting, and on the reverse side of the forms, as supplemented in the Schedule of this contract. The detailed reporting categories to be used, which shall correlate with technical and schedule reporting, shall be set forth in the Schedule. Contractor implementation of reporting requirements under this clause shall include NASA approval of the definitions of the content of each reporting category and give due regard to the Contractor's established financial management information system.

(b) Lower level detail used by the Contractor for its own management purposes to validate information provided to NASA shall be compatible with NASA requirements.

(c) Reports shall be submitted in the number of copies, at the time, and in the manner set forth in the Schedule or as designated in writing by the Contracting Officer. Upon completion and acceptance by NASA of all contract

line items, the Contracting Officer may direct the Contractor to submit Form 533 reports on a quarterly basis only, report only when changes in actual cost incur, or suspend reporting altogether.

(d) The Contractor shall ensure that its Form 533 reports include accurate subcontractor cost data, in the proper reporting categories, for the reporting period.

(e) If during the performance of this contract NASA requires a change in the information or reporting requirements specified in the Schedule, or as provided for in Paragraph (a) or (c) of this clause, the Contracting Officer shall effect that change in accordance with the Changes clause of this contract.

G.4 CONTRACTOR REQUESTS FOR GOVERNMENT-OWNED EQUIPMENT (NASA 1852.245-70) (JUL 1997)

(a) "Equipment," as used in this clause, means commercially available items capable of stand-alone use, including those to be acquired for incorporation into special test equipment or special tooling.

(b)(1) Upon determination of need for any Government-owned equipment item for performance of this contract, the contractor shall provide to the Contracting Officer a written request justifying the need for the equipment and the reasons why contractor-owned property cannot be used, citing the applicable FAR or contract authority for use of Government-owned equipment. Equipment being acquired as a deliverable end item listed in the contract or as a component for incorporation into a deliverable end item listed in the contract is exempt from this requirement.

(2) The contractor's request shall include a description of the item in sufficient detail to enable the Government to screen its inventories for available equipment or to purchase equipment. For this purpose, the contractor shall (i) prepare a separate DD Form 1419, DOD Industrial Plant Equipment Requisition, or equivalent format, for each item requested and (ii) forward it through the contracting officer to the Industrial Property Officer at the cognizant NASA installation at least 30 days in advance of the date the contractor intends to acquire the item. Multiple units of identical items may be requested on a single form. Instructions for preparing the DD Form 1419 are contained in NASA FAR Supplement 1845.7102. If a certificate of nonavailability is not received within that period, the contractor may proceed to acquire the item, subject to having obtained contracting officer consent, if required, and having complied with any other applicable provisions of this contract.

(c) Contractors who are authorized to conduct their own screening using the NASA Equipment Management System (NEMS) and other Government sources of excess property shall provide the evidence of screening results with their request for contracting officer consent. Requests to purchase based on unsuitability of items found shall include rationale for the determined unsuitability.

G.5 SUBMISSION AND PAYMENT OF VOUCHERS

A. Task orders placed on a fixed price basis will be paid no more frequently than monthly and in accordance with the following:

1. Public vouchers for fixed price task orders shall include a reference to this contract NAS1-00140 and the Task Order Number. The Contractor's taxpayer identification number shall be included on the invoice.

2. Partial payments may be authorized. Partial payments, if authorized will be made on no more than a monthly basis for partial delivery of supplies accepted during the month.

3. Payments for fixed price Task Orders for less than \$100,000 will be made after delivery and acceptance of all deliverable items and completion of all task order requirements. For Task Orders over \$100,000, the task order will provide for customary progress payments if the Contractor will not be able to bill for the first delivery of products or other performance milestones for four months or more and will make expenditures for contract performance during the pre-delivery period that have a significant impact on the Contractor's working capital.

4. Pursuant to Section I Clauses 52.232-1 Payments (APR 1984), and 52.232-16 Progress Payments (JUL 1991) with its Alternate 1 (AUG 1987) for small business concerns, progress payments will be based on costs for the progress payment and liquidation rate indicated.

5. Requests for progress payments will be in accordance with Clause 1852.232-82 entitled "Submission of Requests for Progress Payments (MAR 1989) as set forth in G.2.

B. Task orders placed on a cost reimbursement basis shall be paid no more frequently than monthly and in accordance with the following:

1. The designated billing office for cost vouchers for purposes of the Prompt Payment clause of this contract is identified below. Public vouchers for payment of costs shall include a reference to the number of this contract NAS1-00140 and the task orders.

2. (a) If the Contractor is authorized to submit interim cost vouchers directly to the NASA paying office, the original voucher should be submitted to:

Attn: Financial Management Division, MS 175
NASA Langley Research Center
Hampton, VA 23681-2199

(b). For any period that the Defense Contract Audit Agency has authorized the Contractor to submit interim cost vouchers directly to the Government paying office, interim vouchers are not required to be sent to the Auditor, and are considered to be provisionally approved for payment, subject to final audit.

(c). Copies of vouchers should be submitted as directed by the CO.

3. If the Contractor is not authorized to submit interim cost vouchers directly to the paying office as described in paragraph (2), the Contractor shall prepare and submit vouchers as follows:

(a) One original Standard Form (SF) 1034, SF 1035, or equivalent Contractor's attachment to:

[Insert the appropriate NASA or DCAA mailing office address for submission of cost vouchers.]

(b) Five copies of SF 1034, SF 1035A, or equivalent Contractor's attachment to the following offices by insertion in the memorandum block of their names and addresses:

- (i) Copy 1 NASA CO;
- (ii) Copy 2 Auditor;
- (iii) Copy 3 Contractor;
- (iv) Copy 4 Contract administration office; and
- (v) Copy 5 Project management office.

(c) The CO may designate other recipients as required.

4. Public vouchers of payment of fee shall be prepared in accordance with G.11 Incentive Fee Invoices and be forwarded to:

Attn: Contracting Officer, M/S 126
NASA Langley Research Center
Hampton, VA 23681-2199

This is the designated billing office for fee vouchers for purposes of the Prompt Payment clause of this contract.

5. In the event that amounts are withheld from payment in accordance with provisions of this contract, a separate voucher for the amount withheld will be required before payment for that amount may be made.

C. On a monthly basis, the Contractor shall provide the cognizant DCAA (if applicable), the CO and the NASA paying office a summary invoice for all issued cost and fixed price delivery orders. The invoice shall include a breakout of each delivery order being invoiced for the monthly period.

G.6 TASK ORDER SOLICITATION AND SELECTION PROCEDURES

A. Individual Task Orders may be either fixed price, cost-reimbursement or cost plus incentive fee.

B. For orders issued under multiple Task Order contracts, each awardee shall be provided a fair opportunity to be considered for each order in excess of \$2,500 with the exceptions as specified in the following Paragraph. In selecting the awardee with whom to place orders, the CO will consider past performance, quality of services and/or deliverables, cost control, final proposed cost/price or other factors the CO believes are relevant.

Awardees need not be given an opportunity to be considered for a particular order in excess of \$2,500 under multiple Task Order contracts if the CO determines that -

1. The agency need for such supplies or services is of such urgency that providing such opportunity would result in unacceptable delays;

2. Only one such Contractor is capable of providing such supplies or services required at the level of quality required because the supplies or services ordered are unique or highly specialized;

3. The order should be issued on a sole-source basis in the interest of economy and efficiency as a logical follow-on to an order already issued under the contract, provided that all awardees were given a fair opportunity to be considered for the original order; or

4. It is necessary to place an order to satisfy a minimum guarantee.

C. The CO need not contact each of the multiple contract awardees before selecting an order awardee if the CO has information available to ensure that each multiple awardee is provided a fair opportunity to be considered for each order.

D. For those orders which are competed among the multiple contract awardees, the CO will provide a solicitation to each awardee and will request a bid or proposal in accordance with G.7. The solicitation will include a Statement of Work, specifications, or drawings; required delivery date, incentive fee metrics if applicable, any special instructions or provisions, proposed task order type (i.e., fixed price or cost reimbursement), and the selection criteria to be used to award the Task Order. Prior to awarding the Task Order, all awardees will be required to provide a task plan that may include the following: 1) technical approach, 2) implementation plan (including staffing, proposed facilities and subcontractors), and 3) estimated cost including breakouts of the estimated labor hours and all costs to perform the Task Order. In the event the awardee does not wish to participate, the awardee may submit a notice indicating they are not interested in submitting a proposal for the specific Task Order. The level of detail in each Task Plan will be dependent on the complexity of the requirement. Upon selection of an awardee, the CO and the COTR will review the task plan and cost estimate to complete the work. The CO will negotiate any necessary changes with the Contractor. For cost reimbursement task orders, the final cost estimate represents the baseline to be used for reporting in Columns 7b and 7d of NASA Form 533M (See Exhibit A). In addition, the final cost estimate will serve as the target cost for calculating the appropriate incentive fee for the Task Order.

E. In some cases, the CO may issue Task Orders for conceptual designs to be performed by more than one awardee, with the selection for any subsequent order for the detailed design to be based on the merits of the completed conceptual designs.

F. Orders may be issued by facsimile or by electronic commerce methods.

G. After contract award(s) per Solicitation No. 1-47-CG.0017, no protest under FAR 33.1 is authorized in connection with the issuance or proposed issuance of an order under this contract except for a protest on the grounds that the order increases the scope, period, or maximum value of the contract. In accordance with FAR 16.505(b)(4), the following individual is designated as the Task Order Ombudsman responsible for reviewing complaints from Contractors on Task Order contracts:

Dr. Belinda Adams (Call Sandra Ray at (757) 864-2426), Langley Research Center

H. In the case where only one award is made as a result of this solicitation or if the CO determines that the Task Order shall not be competed (based on criteria stated in Paragraph C above), the following Task Order initiation procedures apply:

1. The COTR will provide a Statement of Work, specifications or drawings; required delivery date, incentive fee metrics and any special instructions or provisions to the Contractor.
2. The Contractor will be required to provide a task plan which shall include a discussion of their technical approach for performing the work and an estimated cost for the proposed Task Order in accordance with G.7. The estimated cost shall include breakouts of the estimated labor hours and costs to perform the Task Order.
3. The CO and COTR will review the task plan and cost estimate to complete the work. The CO will negotiate any necessary changes with the Contractor.
4. The final negotiated cost estimate shall represent the baseline to be used for reporting in Columns 7b and 7d of NASA Form 533M (See Exhibit A). In addition, the final cost estimate will serve as the target cost for calculating the appropriate incentive fee for the Task Order.

G.7 TASK ORDERING PROCEDURE (NASA 1852.216-80) (OCT 1996) ALTERNATE I (OCT 1996)

NOTE: PARAGRAPH (i) BELOW APPLIES TO FIRM-FIXED PRICE ORDERS ONLY.

- (a) Only the Contracting Officer may issue task orders to the Contractor, providing specific authorization or direction to perform work within the scope of the contract and as specified in the schedule. The Contractor may incur costs under this contract in performance of task orders and task order modifications issued in accordance with this clause. No other costs are authorized unless otherwise specified in the contract or expressly authorized by the Contracting Officer.
- (b) Prior to issuing a task order, the Contracting Officer shall provide the Contractor with the following data:
 - (1) A functional description of the work identifying the objectives or results desired from the contemplated task order.
 - (2) Proposed performance standards to be used as criteria for determining whether the work requirements have been met.
 - (3) A request for a task plan from the Contractor to include the technical approach, period of performance, appropriate cost information, and any other information required to determine the reasonableness of the Contractor's proposal.
- (c) Within 10 calendar days after receipt of the Contracting Officer's request, the Contractor shall submit a task plan conforming to the request.
- (d) After review and any necessary discussions, the Contracting Officer may issue a task order to the Contractor containing, as a minimum, the following:
 - (1) Date of the order.
 - (2) Contract number and order number.
 - (3) Functional description of the work identifying the objectives or results desired from the task order, including special instructions or other information necessary for performance of the task.
 - (4) Performance standards, and where appropriate, quality assurance standards.
 - (5) Maximum dollar amount authorized (cost and fee or price). This includes allocation of award fee among award fee periods, if applicable.
 - (6) Any other resources (travel, materials, equipment, facilities, etc.) authorized.
 - (7) Delivery/performance schedule including start and end dates.
 - (8) If contract funding is by individual task order, accounting and appropriation data.
- (e) The Contractor shall provide acknowledgment of receipt to the Contracting Officer within 10 calendar days after receipt of the task order.

- (f) If time constraints do not permit issuance of a fully defined task order in accordance with the procedures described in paragraphs (a) through (d), a task order which includes a ceiling price may be issued.
- (g) The Contracting Officer may amend tasks in the same manner in which they were issued.
- (h) In the event of a conflict between the requirements of the task order and the Contractor's approved task plan, the task order shall prevail.
- (i) Contractor shall submit monthly task order progress reports. As a minimum, the reports shall contain the following information:
 - (1) Contract number, task order number, and date of the order.
 - (2) Task ceiling price.
 - (3) Cost and hours incurred to date for each issued task.
 - (4) Costs and hours estimated to complete each issued task.
 - (5) Significant issues/problems associated with a task.
 - (6) Cost summary of the status of all tasks issued under the contract.

G.8 TASK ORDER LIMITATIONS

Each Task Order shall specify a fixed price or total cost limitation. The Contractor shall not exceed the authorized firm fixed price or cost estimate set forth in each Task Order. In regards to cost reimbursement Task Orders, if it becomes necessary to increase the cost limitation, when appropriate, the CO will do so in writing via a Task Order modification.

G.9 CONTRACT CLOSEOUT (LaRC 52.242-90) (JUN 1988)

A. Reassignment--After receipt, inspection, and acceptance by the Government of all required articles and/or services, and resolution of any pending issues raised during the Period of Performance, this contract will be reassigned to the NASA Langley Research Center CO for Contract Closeout. All transactions subsequent to the physical completion of the contract should, therefore, be addressed to the said CO at NASA Langley Research Center, Mail Stop 127, who may be reached by telephone at (757) 864-2500.

B. "Quick Closeout"--Paragraph (f) of the Allowable Cost and Payment clause of this contract addresses the "Quick Closeout Procedure" delineated by Subpart 42.7 of the Federal Acquisition Regulation (FAR). It should be understood that the said procedure applies to the settlement of indirect costs for a specific contract in advance of the determination of final indirect cost rates when the amount of unsettled indirect cost to be allocated to the contract is relatively insignificant. Therefore, the "Quick Closeout" procedure does not preclude the provisions of Paragraph (d) of the Allowable Cost and Payment clause nor does it constitute a waiver of final audit of the Contractor's Completion Voucher.

C. Completion Voucher Submittal--Notwithstanding the provisions of the Allowable Cost and Payment clause, as soon as practicable after settlement of the Contractor's indirect cost rates applicable to performance of the contract, the Contractor shall submit a Completion Voucher as required by the aforesaid clause. The Completion Voucher shall be supported by a cumulative claim and reconciliation statement and executed NASA Forms 778, Contractor's Release, and 780, Contractor's Assignment of Refunds, Rebates, Credits, and Other Amounts. Unless directed otherwise by the CO for Contract Closeout, the Contractor shall forward the said Completion Voucher directly to the cognizant Government Agency to which audit functions under the contract have been delegated.

G.10 INCENTIVE FEE FOR COST REIMBURSEMENT TASK ORDERS

This contract has a cost reimbursement incentive fee component whereby fee will be determined based on the Contractor's performance at the task level based on the COTR assessment. The fee structure detailed in this clause provides incentives for effective Task Order management which includes the Contractor's ability to meet metrics pertaining to cost, technical performance, and schedule as specified in the applicable task plan.

- (i) Incentive Fee: The maximum, minimum, and target fee percentages will be determined on a Task Order basis. The percentages will be determined through negotiation using recommendations from the Contractor and the COTR based on the technical complexity of the specific requirement. All three percentages are applicable to

calculating the cost portion of the incentive fee. The maximum fee is the only applicable percentage used in calculating the technical performance and schedule portions of the incentive fee. These percentages will be applied to the target cost established for each Task Order to derive a dollar value for maximum, target, and minimum fee.

(ii) Fee Arrangement Schedule: The distribution of fee will be defined by one of the six arrangements detailed in the table below. Each fee arrangement defines the priorities unilaterally established by the Government for the specific task involved. The Government will establish the relative importance of cost, technical performance and schedule for each task and select the appropriate fee arrangement accordingly. The fee arrangement used will be identified in the written Task Order using its letter designator (A-F).

Fee Arrangement Table

Fee	A	B	C	D	E	F
Cost (C)*	100	70	50	30	25	TBD
Performance (P)	0	30	30	70	45	TBD
Schedule (S)	0	0	20	0	30	TBD
Total Percentage	100	100	100	100	100	100

*Minimum cost percentage will be 25%

Fee Scenarios:

Fee Arrangement A: Relative weighting used when cost control is of very high importance, when performance is based on a methodology which is well established, and when the action is of a routine nature.

Fee Arrangement B or D: Relative weighting used when both cost and performance incentives are deemed necessary. The relative weighting is determined based on the relative requirements of the job performed.

Fee Arrangement C: Relative weighting which is used when the job requires some emphasis in each category, however, cost still remains most important.

Fee Arrangement E: Relative weighting used when technical performance is most important, delivery also important, and cost of least importance. This could occur on Task Orders requiring critical work on mission critical schedule such as in wind tunnel operations.

Fee Arrangement F: This arrangement is for unusual circumstances where the fee arrangements "A" through "E" described above are not suitable. This fee arrangement is open to negotiation with the only stipulation being that cost receive no less incentive than 25% of the available fee.

(iii) Fee Qualification: Under very special circumstances one or more of the elements of cost, technical performance or schedule may be of critical importance to the completion of a particular task. The element or elements may be of such importance that if the applicable minimum requirements are not met, the task will be considered a failure. The Government will identify tasks with such minimum requirements as "Critical" and specify which element or elements are critical on the written Task Order signed by the CO. Unless all minimum requirements or specifications stated in the Task Order for items designated "critical" are met, no fee shall be paid for the applicable Task Order.

(iv) Evaluation

The incentive fee earned for each Task Order will be based on the fee arrangement table above and the Contractor meeting the Technical, Performance and Cost metrics as defined for each Task Order. Upon completion of the Task Order, the Contractor shall submit a self-evaluation report to the COTR indicating how the contractor performed the metrics. The COTR will review the self-evaluation and submit an evaluation of the contractor's performance to the Contracting Officer noting any disagreements between the COTR's performance evaluation of the Contractor and the Contractor's self-evaluation. Any disagreement between the COTR's performance evaluation and the Contractor's self-evaluation will be resolved by the Contracting Officer.

(v) **Evaluation Formulas:** The incentive fee earned for each Task Order will be based on the fee arrangement table above and the following formulas:

Maximum Fee = Target Cost X Maximum Fee Percentage

Target Fee = Target Cost X Target Fee Percentage

Minimum Fee = Target Cost X Minimum Fee Percentage

Cost: The fee associated with cost will be calculated using a 70/30 fee adjustment formula which represents a share line where the Government's share is 70% and the Contractor's share is 30%.

1. **Compute the cost variance:**
Cost Variance = | Total actual cost – Target cost |
2. **Compute the change in fee:**
Change in fee = Contractor's share (30%) X Cost Variance
3. **Compute the fee associated with the cost metric:**

Case 1: Underrun (Actual cost < Target Cost)

Fee for cost metric = Target fee + Change in Fee

(Not to exceed the Maximum Fee)

Case 2: Overrun (Actual cost > Target Cost)

Fee for Cost metric = Target fee – Change in Fee

(or Minimum Fee, whichever is greater)

Performance: The fee associated with performance is calculated using the chart below:

Level of Performance	Percentage of Maximum Fee
Fails to Meet the Performance Metric	0%
Meets the Performance Metric	50%
Exceeds the Performance Metric	100%

Performance Fee = (Applicable Percentage from chart) X (Maximum Fee)

Schedule: The fee associate with schedule is calculated using the chart below:

Level of Performance	Percentage of Maximum Fee
Fails to Meet the Schedule Metric	0%
Meets the Schedule Metric	50%
Exceeds the Schedule Metric	100%

Schedule Fee = (Applicable Percentage from chart) X (Maximum Fee)

(vi) **Unique Cases:** In the case where there is more than one performance or schedule metric applicable to one Task Order, each metric will be weighted evenly to determine the final performance or schedule fee unless

otherwise stated in the specific Task Order. For example, if four performance metrics are defined in a specific Task Order then each one will be weighted 25 percent.

There may be cases whereby an "Exceeds" performance metric cannot be defined on a one to one ratio with each "Meets" metric for a particular Task Order. In such a case where an "Exceeds" metric cannot be defined, the technical monitor will assign a Percentage of Maximum Fee between the range of 50 percent and 100 percent provided the Contractor meets the metric. The assignment or grading will be based on the technical complexity of the requirement and the quality of the deliverable compared to expected outcome.

(vii) **Final Incentive Fee Formula:** The final incentive fee is derived by taking the weighted average of the Cost Fee, Performance Fee, and Schedule Fee calculated using the formulas above with the weights established from the Fee Arrangement Table. For example, if the fee arrangement chosen for a particular Task Order is level C, then the formula for deriving fee for the particular task is as follows:

$$\text{Final Incentive Fee} = 0.50(\text{Cost Fee}) + 0.30(\text{Performance Fee}) + 0.20 (\text{Schedule Fee})$$

G.11 INCENTIVE FEE INVOICES

Public Vouchers of payment of incentive fee for Task Orders with a period of performance (POP) that is less than or equal to six (6) months shall be submitted upon completion of the task. Task Orders with a POP greater than six (6) months shall be submitted in accordance with the delivery/performance milestones established in the task plan. In no case shall the Contractor invoice the Government for incentive fee in an amount that exceeds 50 percent of the maximum fee on individual Task Orders with a POP greater than six (6) months until task completion. All fee vouchers shall be submitted in accordance with Clause G.5, Submission and Payment of Vouchers; Clause G.10, Incentive Fee For Cost Reimbursement Task Orders and the payment schedule established in the task plan. The CO will review and ultimately approve each fee voucher using input from the CO's Technical Representative (COTR) and data from the monthly Financial Management Report (533) to ensure that all calculations are accurate and in accordance with Clause G.10, Incentive Fee For Cost Reimbursement Task Orders. If errors or inaccuracies are revealed from the CO's review, the Contractor will be contacted for verification purposes. Within 60 days of completion of each Task Order (to ensure all associated costs are submitted via the 533M), the COTR will complete his review and submit his evaluation to the Contracting Officer. The final incentive fee will ultimately be determined by the CO.

PART I - THE SCHEDULE

Section H - Special Contract Requirements

H.1 RIGHTS TO PROPOSAL DATA (TECHNICAL) (FAR 52.227-23) (JUN 1987)

Except for data contained on pages _____, it is agreed that as a condition of award of this contract, and notwithstanding the conditions of any notice appearing thereon, the Government shall have unlimited rights (as defined in the "Rights in Data - General" clause contained in this contract) in and to the technical data contained in the proposal dated _____, upon which this contract is based.

H.2 INCORPORATION OF SECTION K OF THE PROPOSAL BY REFERENCE (LaRC 52.215-107) (JUN 1998)

Pursuant to FAR 15.204-1(b) the completed Section K of the proposal dated _____ is hereby incorporated herein by reference.

H.3 ADVANCE APPROVAL FOR RELEASE OF TECHNICAL INFORMATION (LaRC 52.227-92) (JUL 1998)

The Contractor shall not release technical information based on or containing data first produced in the performance of this contract and describing the work performed under this contract unless prior written approval is given by NASA. The Contractor shall submit technical information regarding the contract effort, such as journal articles, meeting papers, and technical documents to the Contracting Officer's Technical Representative (COTR) for review and concurrence with approval by the Center Export Administrator or designee prior to publication, presentation or release to others. The Contractor may proceed upon receipt of written concurrence by the COTR, unless directed otherwise in the COTR concurrence letter.

H.4 RESERVED

H.5 GOVERNMENT FURNISHED ITEMS

For the performance of this contract, the Government will furnish to the Contractor those items specified in Task Orders.

H.6 SUBCONTRACTING PLAN

The approved Contractor plan for subcontracting with small business and small disadvantaged business concerns is attached hereto as Exhibit C and is hereby made a part of this contract.

H.7 YEAR 2000 COMPLIANCE (MAY 1998)

(a) Definition: "Year 2000 compliant," as used in this clause, means that the information technology (hardware, software and firmware, including embedded systems or any other electro-mechanical or processor-based systems used in accordance with its associated documentation) accurately processes date and date-related data (including, but not limited to, calculating, comparing, and sequencing) from, into, and between the twentieth and twenty-first centuries, and the Years 1999 and 2000 and leap year calculations, to the extent that other information technology, used in combination with the information technology being acquired, properly exchanges date and date-related data with it.

(b) Any information technology provided, operated and/or maintained under this contract is required to be Year 2000 compliant. To ensure this result, the Contractor shall provide documentation describing how the IT items or services demonstrate Year 2000 compliance consisting of: standard product literature or test reports for commercial items, test procedures, and/or certification for complex systems.

(c) The Contractor warrants that any IT items or services provided under this contract that involve the processing of date and date-related data are Year 2000 compliant. If the contract requires that specific listed products must perform as a system in accordance with the foregoing warranty, then that warranty shall apply to those listed products as a system.

(d) The remedies available under this warranty shall include repair or replacement, at no additional cost to the Government, of any provided items or services whose non-compliance is discovered and made known to the Contractor in writing within 90 days after acceptance. In addition, all other the terms and limitations of the Contractor's standard commercial warranty or warranties shall be available to the Government for the IT items or services acquired under this contract. Nothing in this warranty shall be construed to limit any rights or remedies the Government may otherwise have under this contract with respect to defects other than Year 2000 performance.

H.8 QUALITY SYSTEM REQUIREMENTS (ISO 9001)

The Contractor's quality system shall be compliant with the requirements of ANSI/ISO/ASQC Q Q9001-1994, *Quality Systems-Model for Quality Assurance in Design, Development, Production, Installation, and Servicing*. If the Contractor's quality system is not already compliant with the requirements of ANSI/ISO/ASQC Q9001-1994, the Contractor shall develop quality system procedures and associated documentation to become compliant within nine months after the contract effective date. The Contractor's quality system shall remain in compliance with ANSI/ISO/ASQC Q9001-1994 during the term of the contract. The Government reserves the right to audit the Contractor's quality system at any time. The requirements of this clause do not flow down to subcontractors.

"Compliant" as used in this clause means that the contractor has defined, documented, and will continually implement during the term of the contract management-approved methods of operation that conform to the requirements given in the above-cited International Standard.

H.9 TERMINATION

The FAR clauses 52.249-1, Termination for Convenience of the Government (Fixed-Price) (Short Form) (APR 1984), 52.249-2, Termination for Convenience of the Government (Fixed-Price) (SEP 1996), 52.249-6, Termination (Cost-Reimbursement) (SEP 1996) and 52.249-9, Default (Fixed-Price Research and Development) (APR 1984) apply to the contract as a whole and to each individual Task Order issued under this contract. Thus, an individual Task Order may be terminated either for default or for the convenience of the Government.

H.10 SMALL DISADVANTAGED BUSINESS PARTICIPATION—CONTRACT TARGETS

(a) This clause does not apply to, and should not be completed by, Small Disadvantaged Business (SDB) offerors unless the SDB offeror has waived the price adjustment evaluation adjustment [see Paragraph (c) of FAR clause 52.219-23].

(b) FAR 19.1202-4(a) requires that SDB participation targets be incorporated in the contract. Targets for this contract are as follows: (See www.sba.gov/sdb for Department of Commerce Major SDB SIC Groups.)

Contract Period	Department of Commerce		
	Major SIC Group	Dollar Target	Percent of Contract Value
Year 1			
Year 2			
Year 3			
Year 4			
Year 5			

(c) FAR 19.1202-4(b) requires that SDB concerns that are specifically identified by the offeror be listed in the contract when the extent of the identification of such subcontractors was part of the SDB evaluation subfactor. SDB concerns (subcontractors) specifically identified by the offeror are as follows:

Name of Concern(s):

The Contractor shall notify the Contracting Officer of any substitutions of firms that are not SDB concerns.

(d) If the prime offeror is an SDB (including joint venture partners and team members) that has waived the price evaluation adjustment, the target for the work it intends to perform as a prime contractor in authorized SIC Major Groups, as determined by the Department of Commerce, is as follows:

	Dollars	Percent of Contract Value
Contract Period		
Year 1		
Year 2		
Year 3		
Year 4		
Year 5		

PART II - CONTRACT CLAUSES

Section I - Contract Clauses Applicable To Cost Reimbursable Task Orders Issued Under This Contract

I.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE:

FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

CLAUSE NUMBER	TITLE AND DATE
52.216-10	Incentive Fee (MAR 1997)
52.222-2	Payment for Overtime Premiums (Jul 1990)
52.228-7	Insurance - Liability To Third Persons (MAR 1996)
52.232-22	Limitation of Funds (APR 1984)
52.233-3	Protest After Award (AUG 1996) Alternate I (JUN 1985)
52.242-1	Notice of Intent to Disallow Costs (APR 1984)
52.242-3	Penalties for Unallowable Costs (OCT 1995)
52.242-4	Certification of Final Indirect Costs (JAN 1997)
52.242-15	Stop-Work Order (AUG 1989)--Alternate I (APR 1984)
52.243-2	Changes--Cost-Reimbursement (AUG 1987)--Alternate V (APR 1984)
52.244-2	Subcontracts (AUG 1998)
52.244-5	Competition In Subcontracting (DEC 1996)
52.245-5	Government Property (Cost-Reimbursement, Time-and-Material, or Labor-Hour Contracts) (JAN 1986)(DEVIATION) (JUL 1995)
52.246-8	Inspection of Research and Development - Cost-Reimbursement (APR 1984)
52.249-6	Termination (Cost-Reimbursement) (SEP 1996)
52.249-14	Excusable Delays (APR 1984)

NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES

1852.216-89 Assignment and Release Forms (JUL 1997)

I.2 CLAUSES IN FULL TEXT

The clauses listed below follow in full text:

52.216-7 Allowable Cost and Payment (APR 1998)

I.3 ALLOWABLE COST AND PAYMENT (FAR 52.216-7) (APR 1998)

(a) **Invoicing.** The Government shall make payments to the Contractor when requested as work progresses, but (except for small business concerns) not more often than once every 2 weeks, in amounts determined to be allowable by the Contracting Officer in accordance with Subpart 31.2 of the Federal Acquisition Regulation (FAR) in effect on the date of this contract and the terms of this contract. The Contractor may submit to an authorized representative of the Contracting Officer, in such form and reasonable detail as the representative may require, an invoice or voucher supported by a statement of the claimed allowable cost for performing this contract.

(b) **Reimbursing costs.** (1) For the purpose of reimbursing allowable costs (except as provided in subparagraph (b)(2) of this section, with respect to pension, deferred profit sharing, and employee stock ownership plan contributions), the term "costs" includes only--

(i) Those recorded costs that, at the time of the request for reimbursement, the Contractor has paid by cash, check, or other form of actual payment for items or services purchased directly for the contract;

(ii) When the Contractor is not delinquent in paying costs of contract performance in the ordinary course of business, costs incurred, but not necessarily paid, for--

(A) Materials issued from the Contractor's inventory and placed in the production process for use on the contract;

(B) Direct labor;

- (C) Direct travel;
- (D) Other direct in-house costs; and
- (E) Properly allocable and allowable indirect costs, as shown in the records

maintained by the Contractor for purposes of obtaining reimbursement under Government contracts; and

(iii) The amount of progress and other payments that have been paid by cash, check or other form of payment to the Contractor's subcontractors under similar cost standards.

(2) Contractor contributions to any pension or other postretirement benefit, profit-sharing or employee stock ownership plan funds that are paid quarterly or more often may be included in indirect costs for payment purposes; Provided, that the Contractor pays the contribution to the fund within 30 days after the close of the period covered. Payments made 30 days or more after the close of a period shall not be included until the Contractor actually makes the payment. Accrued costs for such contributions that are paid less often than quarterly shall be excluded from indirect costs for payment purposes until the Contractor actually makes the payment.

(3) Notwithstanding the audit and adjustment of invoices or vouchers under paragraph (g) of this clause, allowable indirect costs under this contract shall be obtained by applying indirect cost rates established in accordance with paragraph (d) of this clause.

(4) Any statements in specifications or other documents incorporated in this contract by reference designating performance of services or furnishing of materials at the Contractor's expense or at no cost to the Government shall be disregarded for purposes of cost-reimbursement under this clause.

(c) Small business concerns. A small business concern may be paid more often than every 2 weeks and may invoice and be paid for recorded costs for items or services purchased directly for the contract, even though the concern has not yet paid for those items or services.

(d) Final indirect cost rates. (1) Final annual indirect cost rates and the appropriate bases shall be established in accordance with Subpart 42.7 of the Federal Acquisition Regulation (FAR) in effect for the period covered by the indirect cost rate proposal.

(2)(i) The Contractor shall submit an adequate final indirect cost rate proposal to the Contracting Officer (or cognizant Federal agency official) and auditor within the 6-month period following the expiration of each of its fiscal years. Reasonable extensions, for exceptional circumstances only, may be requested in writing by the Contractor and granted in writing by the Contracting Officer. The Contractor shall support its proposal with adequate supporting data.

(ii) The proposed rates shall be based on the Contractor's actual cost experience for that period. The appropriate Government representative and the Contractor shall establish the final indirect cost rates as promptly as practical after receipt of the Contractor's proposal.

(3) The Contractor and the appropriate Government representative shall execute a written understanding setting forth the final indirect cost rates. The understanding shall specify (i) the agreed-upon final annual indirect cost rates, (ii) the bases to which the rates apply, (iii) the periods for which the rates apply, (iv) any specific indirect cost items treated as direct costs in the settlement, and (v) the affected contract and/or subcontract, identifying any with advance agreements or special terms and the applicable rates. The understanding shall not change any monetary ceiling, contract obligation, or specific cost allowance or disallowance provided for in this contract. The understanding is incorporated into this contract upon execution.

(4) Within 120 days after settlement of the final indirect cost rates covering the year in which this contract is physically complete (or longer, if approved in writing by the Contracting Officer), the Contractor shall submit a completion invoice or voucher to reflect the settled amounts and rates.

(5) Failure by the parties to agree on a final annual indirect cost rate shall be a dispute within the meaning of the Disputes clause.

(e) Billing rates. Until final annual indirect cost rates are established for any period, the Government shall reimburse the Contractor at billing rates established by the Contracting Officer or by an authorized representative (the cognizant auditor), subject to adjustment when the final rates are established. These billing rates--

(1) Shall be the anticipated final rates; and

(2) May be prospectively or retroactively revised by mutual agreement, at either party's request, to prevent substantial overpayment or underpayment.

(f) Quick-closeout procedures. Quick-closeout procedures are applicable when the conditions in FAR 42.708(a) are satisfied.

(g) Audit. At any time or times before final payment, the Contracting Officer may have the Contractor's invoices or vouchers and statements of cost audited. Any payment may be--

(1) Reduced by amounts found by the Contracting Officer not to constitute allowable costs; or

(2) Adjusted for prior overpayments or underpayments.

(h) Final payment. (1) Upon approval of a completion invoice or voucher submitted by the Contractor in accordance with paragraph (d)(4) of this clause, and upon the Contractor's compliance with all terms of this contract, the Government shall promptly pay any balance of allowable costs and that part of the fee (if any) not previously paid.

(2) The Contractor shall pay to the Government any refunds, rebates, credits, or other amounts (including interest, if any) accruing to or received by the Contractor or any assignee under this contract, to the extent that those amounts are properly allocable to costs for which the Contractor has been reimbursed by the Government. Reasonable expenses incurred by the Contractor for securing refunds, rebates, credits, or other amounts shall be allowable costs if approved by the Contracting Officer. Before final payment under this contract, the Contractor and each assignee whose assignment is in effect at the time of final payment shall execute and deliver--

(i) An assignment to the Government, in form and substance satisfactory to the Contracting Officer, of refunds, rebates, credits, or other amounts (including interest, if any) properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract; and

(ii) A release discharging the Government, its officers, agents, and employees from all liabilities, obligations, and claims arising out of or under this contract, except--

(A) Specified claims stated in exact amounts, or in estimated amounts when the exact amounts are not known;

(B) Claims (including reasonable incidental expenses) based upon liabilities of the Contractor to third parties arising out of the performance of this contract; provided, that the claims are not known to the Contractor on the date of the execution of the release, and that the Contractor gives notice of the claims in writing to the Contracting Officer within 6 years following the release date or notice of final payment date, whichever is earlier; and

(C) Claims for reimbursement of costs, including reasonable incidental expenses, incurred by the Contractor under the patent clauses of this contract, excluding, however, any expenses arising from the Contractor's indemnification of the Government against patent liability.

Section I - Contract Clauses Applicable To Firm-Fixed Price Task Orders Issued Under This Contract.

I.4 LISTING OF CLAUSES INCORPORATED BY REFERENCE:

FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

CLAUSE NUMBER	TITLE AND DATE
52.229-3	Federal, State, and Local Taxes (JAN 1991)
52.229-5	Taxes - Contracts Performed in U.S. Possessions or Puerto Rico (APR 1984)
52.232-2	Payments under Fixed-Price Research and Development Contracts (APR 1984)
52.232-13	Notice of Progress Payments (APR 1984)
52.232-16	Progress Payments (JUL 1991)
52.232-16	Progress Payments (JUL 1991)--Alternate I (AUG 1987)
52.233-3	Protest After Award (AUG 1996)
52.242-15	Stop-Work Order (AUG 1989)
52.243-1	Changes--Fixed Price (AUG 1987)--Alternate V (APR 1984)
52.245-2	Government Property (Fixed-Price Contracts) (DEC 1989)
52.246-7	Inspection of Research and Development - Fixed-Price (AUG 1996)
52.246-16	Responsibility for Supplies (APR 1984)
52.249-1	Termination for Convenience of the Government (Fixed-Price) (Short Form) (APR 1984)
52.249-2	Termination for Convenience of the Government (Fixed-Price) (SEP 1996)
52.249-9	Default (Fixed-Price Research and Development) (APR 1984)

NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES

1852.232-77	Limitation of Funds (Fixed-Price Contract) (Mar 1989)
1852.232-82	Submission of Requests for Progress Payments (Mar 1989)

Section I - Contract Clauses Applicable To Both Firm-Fixed Price Task Orders And Cost Reimbursable Task Orders Issued Under This Contract.

I.5 LISTING OF CLAUSES INCORPORATED BY REFERENCE:

FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

<u>CLAUSE NUMBER</u>	<u>TITLE AND DATE</u>
52.202-1	Definitions (OCT 1995)
52.203-3	Gratuities (APR 1984)
52.203-5	Covenant Against Contingent Fees (APR 1984)
52.203-6	Restrictions on Subcontractor Sales to the Government (JUL 1995)
52.203-7	Anti-Kickback Procedures (JUL 1995)
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity (JAN 1997)
52.203-10	Price or Fee Adjustment for Illegal or Improper Activity (JAN 1997)
52.203-12	Limitation on Payments to Influence Certain Federal Transactions (JUN 1997)
52.204-4	Printing/Copying Double-Sided on Recycled Paper (JUN 1996)
52.209-6	Protecting the Government's Interest when Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment (JUL 1995)
52.211-15	Defense Priority and Allocation Requirements (SEP 1990)
52.215-2	Audit and Records--Negotiation (AUG 1996)
52.215-8	Order of Precedence (OCT 1997)
52.215-11	Price Reduction for Defective Cost or Pricing Data—Modifications (OCT 1997)
52.215-13	Subcontractor Cost or Pricing Data—Modifications (OCT 1997)
52.215-14	Integrity of Unit Prices (OCT 1997)
52.215-15	Pension Adjustments And Asset Reversions (DEC 1998)
52.215-16	Facilities Capital Cost of Money (Oct 1997)
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other Than Pensions (OCT 1997)
52.215-19	Notification of Ownership Changes (OCT 1997)
52.219-8	Utilization of Small Business Concerns (OCT 1999)
52.219-9	Small Business Subcontracting Plan (OCT 1999)
52.219-16	Liquidated Damages--Subcontracting Plan (JAN 1999)
52.222-1	Notice to the Government of Labor Disputes (FEB 1997)
52.222-3	Convict Labor (AUG 1996)
52.222-21	Prohibition of Segregated Facilities (FEB 1999)
52.222-26	Equal Opportunity (FEB 1999)
52.222-35	Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era (APR 1998)
52.222-36	Affirmative Action for Workers with Disabilities (JUN 1998)
52.222-37	Employment Reports on Disabled Veterans and Veterans of the Vietnam Era (JAN 1999)
52.223-2	Clean Air and Water (APR 1984)
52.223-6	Drug-Free Workplace (JAN 1997)
52.223-14	Toxic Chemical Release Reporting (OCT 1996)
52.225-11	Restrictions on Certain Foreign Purchases (AUG 1998)
52.227-1	Authorization and Consent (JUL 1995) Alt I (APR 1984)
52.227-2	Notice and Assistance Regarding Patent and Copyright Infringement (AUG 1996)
52.227-11	Patent Rights--Retention by the Contractor (Short Form) (JUN 1997)--as modified by NASA FAR Supplement 1852.227-11
52.227-12	Patent Rights--Retention by the Contractor (Long Form) (JAN 1997)
52.227-16	Additional Data Requirements (JUN 1987)
52.230-2	Cost Accounting Standards (APR 1998)
52.230-6	Administration of Cost Accounting Standards (NOV 1999)
52.232-9	Limitation on Withholding of Payments (APR 1984)
52.232-17	Interest (JUN 1996)
52.232-23	Assignment of Claims (JAN 1986)

CLAUSE NUMBER	TITLE AND DATE
52.232-34	Payment by Electronic Funds Transfer Other than Central Contractor Registration (MAY 1999)
52.233-1	Disputes (DEC 1998)--Alternate I (DEC 1991)
52.244-2	Subcontracts (Aug 1998)
52.244-5	Competition in Subcontracting (Dec 1996)
52.245-18	Special Test Equipment (FEB 1993)
52.246-24	Limitation of Liability--High Value Items (FEB 1997)
52.246-25	Limitation of Liability--Services (FEB 1997)
52.253-1	Computer Generated Forms (JAN 1991)

NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES

1852.208-81	Restrictions on Printing and Duplicating (Aug 1993)
1852.219-74	Use of Rural Area Small Businesses (SEP 1990)
1852.219-75	Small Business Subcontracting Reporting (MAY 1999)
1852.219-76	NASA 8 Percent Goal (JUL 1997)
1852.227-70	New Technology (NOV 1998)
1852.227-86	Commercial Computer Software--Licensing (DEC 1987)
1852.235-70	Center for Aerospace Information (JUL 1999)
1852.243-71	Shared Savings (MAR 1997)

I.6 CLAUSES IN FULL TEXT

The clauses listed below follow in full text:

52.215-21	Requirements for Cost and Pricing Data or Information Other Than Cost or Pricing Data - Modifications (OCT 1997)
52.216-18	Ordering (OCT 1995)
52.216-19	Order Limitations (OCT 1995)
52.216-22	Indefinite Quantity (OCT 1995)
52.219-4	Notice of Price Evaluation Preference For HUBZone Small Business Concerns (JAN 1999)
52.219-23	Notice of Price Adjustment for Small Disadvantaged Business Concerns (OCT 1999)
52.219-25	Small Disadvantaged Business Participation Program-Disadvantaged Status And Reporting (OCT 1999)
52.227-14	Rights in Data--General (JUN 1987)--Alternate II (JUN 1987) and Alternate III (JUN 1987)
52.232-25	Prompt Payment (JUN 1997)
52.242-13	Bankruptcy (JUL 1995)
52.244-6	Subcontracts for Commercial Items and Commercial Components (OCT 1998)
1852.215-84	Ombudsman (OCT 1996)
1852.223-70	Safety and Health (MAR 1997)
1852.245-73	Financial Reporting of NASA Property in the Custody of Contractors (SEP 1996)
1852.246-72	Material Inspection and Receiving Report (JUN 1995)

I.7 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA--MODIFICATIONS (FAR 52.215-21) (OCT 1997)

(a) Exceptions from cost or pricing data.

(1) In lieu of submitting cost or pricing data for modifications under this contract, for price adjustments expected to exceed the threshold set forth at FAR 15.403-4 on the date of the agreement on price or the date of the award, whichever is later, the Contractor may submit a written request for exception by submitting the information described in the following subparagraphs. The Contracting Officer may require additional supporting information, but only to the extent necessary to determine whether an exception should be granted, and whether the price is fair and reasonable--

(i) Identification of the law or regulation establishing the price offered. If the price is controlled under law by periodic rulings, reviews, or similar actions of a governmental body, attach a copy of the controlling document, unless it was previously submitted to the contracting office.

(ii) Information on modifications of contracts or subcontracts for commercial items.

(A) If--

(1) The original contract or subcontract was granted an exception from cost or pricing data requirements because the price agreed upon was based on adequate price competition or prices set by law or regulation, or was a contract or subcontract for the acquisition of a commercial item; and

(2) The modification (to the contract or subcontract) is not exempted based on one of these exceptions, then the Contractor may provide information to establish that the modification would not change the contract or subcontract from a contract or subcontract for the acquisition of a commercial item to a contract or subcontract for the acquisition of an item other than a commercial item.

(B) For a commercial item exception, the Contractor shall provide, at a minimum, information on prices at which the same item or similar items have previously been sold that is adequate for evaluating the reasonableness of the price of the modification. Such information may include--

(1) For catalog items, a copy of or identification of the catalog and its date, or the appropriate pages for the offered items, or a statement that the catalog is on file in the buying office to which the proposal is being submitted. Provide a copy or describe current discount policies and price lists (published or unpublished), e.g., wholesale, original equipment manufacturer, or reseller. Also explain the basis of each offered price and its relationship to the established catalog price, including how the proposed price relates to the price of recent sales in quantities similar to the proposed quantities.

(2) For market-priced items, the source and date or period of the market quotation or other basis for market price, the base amount, and applicable discounts. In addition, describe the nature of the market.

(3) For items included on an active Federal Supply Service Multiple Award Schedule contract, proof that an exception has been granted for the schedule item.

(2) The Contractor grants the Contracting Officer or an authorized representative the right to examine, at any time before award, books, records, documents, or other directly pertinent records to verify any request for an exception under this clause, and the reasonableness of price. For items priced using catalog or market prices, or law or regulation, access does not extend to cost or profit information or other data relevant solely to the Contractor's determination of the prices to be offered in the catalog or marketplace.

(b) Requirements for cost or pricing data. If the Contractor is not granted an exception from the requirement to submit cost or pricing data, the following applies:

(1) The Contractor shall submit cost or pricing data and supporting attachments in accordance with Table 15-2 of FAR 15.408.

(2) As soon as practicable after agreement on price, but before award (except for unpriced actions), the Contractor shall submit a Certificate of Current Cost or Pricing Data, as prescribed by FAR 15.406-2.

I.8 ORDERING (FAR 52.216-18) (OCT 1995)

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. Such orders may be issued from contract award through the end of the contract term.

(b) All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order or task order and this contract, the contract shall control.

(c) If mailed, a delivery order or task order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the Schedule.

I.9 ORDER LIMITATIONS (FAR 52.216-19) (OCT 1995)

(a) Minimum order. When the Government requires supplies or services covered by this contract in an amount of less than guaranteed minimum stated in Clause B.2, Indefinite Delivery/Indefinite quantity Contract (IDIQ) contract, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under the contract.

(b) Maximum order. The Contractor is not obligated to honor--

(1) Any order for a single item in excess of maximum stated in Clause B.2, IDIQ contract ;

(2) Any order for a combination of items in excess of maximum stated in Clause B.2, IDIQ contract;

or

(3) A series of orders from the same ordering office within 30 days that together call for quantities exceeding the limitation in subparagraph (1) or (2) above.

(c) If this is a requirements contract (i.e., includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) above.

(d) Notwithstanding paragraphs (b) and (c) above, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within 10 days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

I.10 INDEFINITE QUANTITY (FAR 52.216-22) (OCT 1995)

(a) This is an indefinite-quantity contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the "maximum." The Government shall order at least the quantity of supplies or services designated in the Schedule as the "minimum."

(c) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(d) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided, that the Contractor shall not be required to make any deliveries under this contract after end of 5 year period of performance.

I.11 NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS (FAR 52.219-4) (JAN 1999)

(a) Definition. "HUBZone small business concern," as used in this clause, means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

(b) Evaluation preference. (1) Offers will be evaluated by adding a factor of 10 percent to the price of all offers, except--

- (i) Offers from HUBZone small business concerns that have not waived the evaluation preference;
- (ii) Otherwise successful offers from small business concerns;
- (iii) Otherwise successful offers of eligible products under the Trade Agreements Act when the dollar threshold for application of the Act is exceeded (see 25.402 of the Federal Acquisition Regulation (FAR)); and

(iv) Otherwise successful offers where application of the factor would be inconsistent with a Memorandum of Understanding or other international agreement with a foreign government.

(2) The factor of 10 percent shall be applied on a line item basis or to any group of items on which award may be made. Other evaluation factors described in the solicitation shall be applied before application of the factor.

(3) A concern that is both a HUBZone small business concern and a small disadvantaged business concern will receive the benefit of both the HUBZone small business price evaluation preference and the small disadvantaged business price evaluation adjustment (see FAR clause 52.219-23). Each applicable price evaluation preference or adjustment shall be calculated independently against an offeror's base offer. These individual preference amounts shall be added together to arrive at the total evaluated price for that offer.

(c) Waiver of evaluation preference. A HUBZone small business concern may elect to waive the evaluation preference, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraph (d) of this clause do not apply if the offeror has waived the evaluation preference.

* Offeror elects to waive the evaluation preference.

(d) Agreement. A HUBZone small business concern agrees that in the performance of the contract, in the case of a contract for--

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other HUBZone small business concerns;

(2) Supplies (other than procurement from a nonmanufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other HUBZone small business concerns;

(3) General construction, at least 15 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns; or

(4) Construction by special trade contractors, at least 25 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns.

(e) A HUBZone joint venture agrees that in the performance of the contract, the applicable percentage specified in paragraph (d) of this clause will be performed by the HUBZone small business participant or participants.

(f) A HUBZone small business concern nonmanufacturer agrees to furnish in performing this contract only end items manufactured or produced by HUBZone small business manufacturer concerns. This paragraph does not apply in connection with construction or service contracts.

1.12 NOTICE OF PRICE EVALUATION ADJUSTMENT FOR SMALL DISADVANTAGED BUSINESS CONCERNS (FAR 52.219-23) (OCT 1999)

(a) Definitions. As used in this clause--

"Small disadvantaged business concern" means an offeror that represents, as part of its offer, that it is a small business under the size standard applicable to this acquisition; and either--

(1) It has received certification by the Small Business Administration as a small disadvantaged business concern consistent with 13 CFR part 124, subpart B; and

(i) No material change in disadvantaged ownership and control has occurred since its certification;

(ii) Where the concern is owned by one or more disadvantaged individuals, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(iii) It is identified, on the date of its representation, as a certified small disadvantaged business concern in the database maintained by the Small Business Administration (PRO-Net).

(2) It has submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantaged business concern in accordance with 13 CFR part 124, subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred since its application was submitted. In this case, in order to receive the benefit of a price evaluation adjustment, an offeror must receive certification as a small disadvantaged business concern by the Small Business Administration prior to contract award; or

(3) Is a joint venture as defined in 13 CFR 124.1002(f).

"Historically black college or university" means an institution determined by the Secretary of Education to meet the requirements of 34 CFR 608.2. For the Department of Defense (DoD), the National Aeronautics and Space Administration (NASA), and the Coast Guard, the term also includes any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

"Minority institution" means an institution of higher education meeting the requirements of Section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1135d-5(3)) which, for purposes of this clause, includes a Hispanic-serving institution of higher education as defined in Section 316(b)(1) of the Act (20 U.S.C. 1059c(b)(1)).

"United States" means the United States, its territories and possessions, the Commonwealth of Puerto Rico, the U.S. Trust Territory of the Pacific Islands, and the District of Columbia.

(b) Evaluation adjustment. (1) The Contracting Officer will evaluate offers by adding a factor of 10 percent to the price of all offers, except--

- (i) Offers from small disadvantaged business concerns that have not waived the adjustment;
- (ii) An otherwise successful offer of eligible products under the Trade Agreements Act when the dollar threshold for application of the Act is equaled or exceeded (see section 25.402 of the Federal Acquisition Regulation (FAR));
- (iii) An otherwise successful offer where application of the factor would be inconsistent with a Memorandum of Understanding or other international agreement with a foreign government;
- (iv) For DoD, NASA, and Coast Guard acquisitions, an otherwise successful offer from a historically black college or university or minority institution; and
- (v) For DoD acquisitions, an otherwise successful offer of qualifying country end products (see sections 225.000-70 and 252.225-7001 of the Defense FAR Supplement).

(2) The Contracting Officer will apply the factor to a line item or a group of line items on which award may be made. The Contracting Officer will apply other evaluation factors described in the solicitation before application of the factor. The factor may not be applied if using the adjustment would cause the contract award to be made at a price that exceeds the fair market price by more than the factor in paragraph (b)(1) of this clause.

(c) Waiver of evaluation adjustment. A small disadvantaged business concern may elect to waive the adjustment, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraph (d) of this clause do not apply to offers that waive the adjustment.

_____ Offeror elects to waive the adjustment.

(d) Agreements. (1) A small disadvantaged business concern, that did not waive the adjustment, agrees that in performance of the contract, in the case of a contract for--

- (i) Services, except construction, at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern;
- (ii) Supplies (other than procurement from a nonmanufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern;
- (iii) General construction, at least 15 percent of the cost of the contract, excluding the cost of materials, will be performed by employees of the concern; or
- (iv) Construction by special trade contractors, at least 25 percent of the cost of the contract, excluding the cost of materials, will be performed by employees of the concern.

(2) A small disadvantaged business concern submitting an offer in its own name agrees to furnish in performing this contract only end items manufactured or produced by small disadvantaged business concerns in the United States. This paragraph does not apply in connection with construction or service contracts.

I.13 SMALL DISADVANTAGED BUSINESS PARTICIPATION PROGRAM-DISADVANTAGED STATUS AND REPORTING (FAR 52.219-25) (OCT 1999)

(a) Disadvantaged status for joint venture partners, team members, and subcontractors. This clause addresses disadvantaged status for joint venture partners, teaming arrangement members, and subcontractors and is applicable if this contract contains small disadvantaged business (SDB) participation targets. The Contractor shall obtain representations of small disadvantaged status from joint venture partners, teaming arrangement members, and subcontractors through use of a provision substantially the same as paragraph (b)(1)(i) of the provision at FAR 52.219-22, Small Disadvantaged Business Status. The Contractor shall confirm that a joint venture partner, team member, or subcontractor representing itself as a small disadvantaged business concern, is identified as a certified small disadvantaged business in the database maintained by the Small Business Administration (PRO-Net) or by contacting the SBA's Office of Small Disadvantaged Business Certification and Eligibility.

(b) Reporting requirement. If this contract contains SDB participation targets, the Contractor shall report on the participation of SDB concerns at contract completion, or as otherwise provided in this contract. Reporting may be on Optional Form 312, Small Disadvantaged Business Participation Report, or in the Contractor's own format providing the same information. This report is required for each contract containing SDB participation targets. If this contract contains an individual Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan, reports may be submitted with the final Subcontracting Report for Individual Contracts (Standard Form 294) at the completion of the contract.

I.14 RIGHTS IN DATA--GENERAL (FAR 52.227-14)(JUN 1987) (ALTERNATE II) (JUN 1987) AND ALTERNATE III (JUN 1987)

(a) Definitions. "Computer software," as used in this clause, means computer programs, computer data bases, and documentation thereof.

"Data," as used in this clause, means recorded information, regardless of form or the media on which it may be recorded. The term includes technical data and computer software. The term does not include information incidental to contract administration, such as financial, administrative, cost or pricing, or management information.

"Form, fit, and function data," as used in this clause, means data relating to items, components, or processes that are sufficient to enable physical and functional interchangeability, as well as data identifying source, size, configuration, mating, and attachment characteristics, functional characteristics, and performance requirements; except that for computer software it means data identifying source, functional characteristics, and performance requirements but specifically excludes the source code, algorithm, process, formulae, and flow charts of the software.

"Limited rights," as used in this clause, means the rights of the Government in limited rights data as set forth in the Limited Rights Notice of subparagraph (g)(2) if included in this clause.

"Limited rights data," as used in this clause, means data (other than computer software) that embody trade secrets or are commercial or financial and confidential or privileged, to the extent that such data pertain to items, components, or processes developed at private expense, including minor modifications thereof.

"Restricted computer software," as used in this clause, means computer software developed at private expense and that is a trade secret; is commercial or financial and is confidential or privileged; or is published copyrighted computer software, including minor modifications of such computer software.

"Restricted rights," as used in this clause, means the rights of the Government in restricted computer software, as set forth in a Restricted Rights Notice of subparagraph (g)(3) if included in this clause, or as otherwise may be provided in a collateral agreement incorporated in and made part of this contract, including minor modifications of such computer software.

"Technical data," as used in this clause, means data (other than computer software) which are of a scientific or technical nature.

"Unlimited rights," as used in this clause, means the right of the Government to use, disclose, reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, in any manner and for any purpose, and to have or permit others to do so.

(b) Allocation of rights. (1) Except as provided in paragraph (c) of this clause regarding copyright, the Government shall have unlimited rights in--

- (i) Data first produced in the performance of this contract;
- (ii) Form, fit, and function data delivered under this contract;

(iii) Data delivered under this contract (except for restricted computer software) that constitute manuals or instructional and training material for installation, operation, or routine maintenance and repair of items, components, or processes delivered or furnished for use under this contract; and

(iv) All other data delivered under this contract unless provided otherwise for limited rights data or restricted computer software in accordance with paragraph (g) of this clause.

(2) The Contractor shall have the right to--

(i) Use, release to others, reproduce, distribute, or publish any data first produced or specifically used by the Contractor in the performance of this contract, unless provided otherwise in paragraph (d) of this clause;

(ii) Protect from unauthorized disclosure and use those data which are limited rights data or restricted computer software to the extent provided in paragraph (g) of this clause;

(iii) Substantiate use of, add or correct limited rights, restricted rights, or copyright notices and to take other appropriate action, in accordance with paragraphs (e) and (f) of this clause; and

(iv) Establish claim to copyright subsisting in data first produced in the performance of this contract to the extent provided in subparagraph (c)(1) of this clause.

(c) Copyright--(1) Data first produced in the performance of this contract. Unless provided otherwise in paragraph (d) of this clause, the Contractor may establish, without prior approval of the Contracting Officer, claim to copyright subsisting in scientific and technical articles based on or containing data first produced in the performance of this contract and published in academic, technical or professional journals, symposia proceedings or similar works. The prior, express written permission of the Contracting Officer is required to establish claim to copyright subsisting in all other data first produced in the performance of this contract. When claim to copyright is made, the Contractor shall affix the applicable copyright notices of 17 U.S.C. 401 or 402 and acknowledgment of Government sponsorship (including contract number) to the data when such data are delivered to the Government, as well as when the data are published or deposited for registration as a published work in the U.S. Copyright Office. For data other than computer software the Contractor grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable worldwide license in such copyrighted data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, by or on behalf of the Government. For computer software, the Contractor grants to the Government and others acting in its behalf, a paid-up nonexclusive, irrevocable worldwide license in such copyrighted computer software to reproduce, prepare derivative works, and perform publicly and display publicly by or on behalf of the Government.

(2) Data not first produced in the performance of this contract. The Contractor shall not, without prior written permission of the Contracting Officer, incorporate in data delivered under this contract any data not first produced in the performance of this contract and which contains the copyright notice of 17 U.S.C. 401 or 402, unless the Contractor identifies such data and grants to the Government, or acquires on its behalf, a license of the same scope as set forth in subparagraph (c)(1) of this clause; provided, however, that if such data are computer software the Government shall acquire a copyright license as set forth in subparagraph (g)(3) of this clause if included in this contract or as otherwise may be provided in a collateral agreement incorporated in or made part of this contract.

(3) Removal of copyright notices. The Government agrees not to remove any copyright notices placed on data pursuant to this paragraph (c), and to include such notices on all reproductions of the data.

(d) Release, publication and use of data. (1) The Contractor shall have the right to use, release to others, reproduce, distribute, or publish any data first produced or specifically used by the Contractor in the performance of this contract, except to the extent such data may be subject to the Federal export control or national security laws or regulations, or unless otherwise provided in this paragraph of this clause or expressly set forth in this contract.

(2) The Contractor agrees that to the extent it receives or is given access to data necessary for the performance of this contract which contain restrictive markings, the Contractor shall treat the data in accordance with such markings unless otherwise specifically authorized in writing by the Contracting Officer.

(e) Unauthorized marking of data. (1) Notwithstanding any other provisions of this contract concerning inspection or acceptance, if any data delivered under this contract are marked with the notices specified in subparagraph (g)(2) or (g)(3) of this clause and use of such is not authorized by this clause, or if such data bears any other restrictive or limiting markings not authorized by this contract, the Contracting Officer may at any time either return the data to the Contractor, or cancel or ignore the markings. However, the following procedures shall apply prior to canceling or ignoring the markings.

(i) The Contracting Officer shall make written inquiry to the Contractor affording the Contractor 30 days from receipt of the inquiry to provide written justification to substantiate the propriety of the markings;

(ii) If the Contractor fails to respond or fails to provide written justification to substantiate the propriety of the markings within the 30-day period (or a longer time not exceeding 90 days approved in writing by the Contracting Officer for good cause shown), the Government shall have the right to cancel or ignore the markings at any time after said period and the data will no longer be made subject to any disclosure prohibitions.

(iii) If the Contractor provides written justification to substantiate the propriety of the markings within the period set in subdivision (e)(1)(i) of this clause, the Contracting Officer shall consider such written justification and determine whether or not the markings are to be cancelled or ignored. If the Contracting Officer determines that the markings are authorized, the Contractor shall be so notified in writing. If the Contracting Officer determines, with concurrence of the head of the contracting activity, that the markings are not authorized, the Contracting Officer shall furnish the Contractor a written determination, which determination shall become the final agency decision regarding the appropriateness of the markings unless the Contractor files suit in a court of competent jurisdiction within 90 days of receipt of the Contracting Officer's decision. The Government shall continue to abide by the markings under this subdivision (e)(1)(iii) until final resolution of the matter either by the Contracting Officer's determination becoming final (in which instance the Government shall thereafter have the right to cancel or ignore the markings at any time and the data will no longer be made subject to any disclosure prohibitions), or by final disposition of the matter by court decision if suit is filed.

(2) The time limits in the procedures set forth in subparagraph (e)(1) of this clause may be modified in accordance with agency regulations implementing the Freedom of Information Act (5 U.S.C. 552) if necessary to respond to a request thereunder.

(3) This paragraph (e) does not apply if this contract is for a major system or for support of a major system by a civilian agency other than NASA and the U.S. Coast Guard agency subject to the provisions of Title III of the Federal Property and Administrative Services Act of 1949.

(4) Except to the extent the Government's action occurs as the result of final disposition of the matter by a court of competent jurisdiction, the Contractor is not precluded by this paragraph (e) from bringing a claim under the Contract Disputes Act, including pursuant to the Disputes clause of this contract, as applicable, that may arise as the result of the Government removing or ignoring authorized markings on data delivered under this contract.

(f) Omitted or incorrect markings. (1) Data delivered to the Government without either the limited rights or restricted rights notice as authorized by paragraph (g) of this clause, or the copyright notice required by paragraph (c) of this clause, shall be deemed to have been furnished with unlimited rights, and the Government assumes no liability for the disclosure, use, or reproduction of such data. However, to the extent the data has not been disclosed without restriction outside the Government, the Contractor may request, within 6 months (or a longer time approved by the Contracting Officer for good cause shown) after delivery of such data, permission to have notices placed on qualifying data at the Contractor's expense, and the Contracting Officer may agree to do so if the Contractor--

- (i) Identifies the data to which the omitted notice is to be applied;
- (ii) Demonstrates that the omission of the notice was inadvertent;
- (iii) Establishes that the use of the proposed notice is authorized; and
- (iv) Acknowledges that the Government has no liability with respect to the disclosure, use, or reproduction of any such data made prior to the addition of the notice or resulting from the omission of the notice.

(2) The Contracting Officer may also (i) permit correction at the Contractor's expense of incorrect notices if the Contractor identifies the data on which correction of the notice is to be made, and demonstrates that the correct notice is authorized, or (ii) correct any incorrect notices.

(g) Protection of limited rights data and restricted computer software.

(1) When data other than that listed in subdivisions (b)(1)(i), (ii), and (iii) of this clause are specified to be delivered under this contract and qualify as either limited rights data or restricted computer software, if the Contractor desires to continue protection of such data, the Contractor shall withhold such data and not furnish them to the Government under this contract. As a condition to this withholding, the Contractor shall identify the data being withheld and furnish form, fit, and function data in lieu thereof. Limited rights data that are formatted as a computer data base for delivery to the Government are to be treated as limited rights data and not restricted computer software.

(2) Notwithstanding subparagraph (g)(1) of this clause, the contract may identify and specify the delivery of limited rights data, or the Contracting Officer may require by written request the delivery of limited rights data that has been withheld or would otherwise be withholdable. If delivery of such data is so required, the Contractor may affix the following "Limited Rights Notice" to the data and the Government will thereafter treat the data, subject to the provisions of paragraphs (e) and (f) of this clause, in accordance with such Notice:

Limited Rights Notice (Jun 1987)

(a) These data are submitted with limited rights under Government Contract No. _____ (and subcontract _____, if appropriate). These data may be reproduced and used by the Government with the express limitation that they will not, without written permission of the Contractor, be used for purposes of manufacture nor disclosed outside the Government; except that the Government may disclose these data outside the Government for the following purposes, if any; provided that the Government makes such disclosure subject to prohibition against further use and disclosure: [Agencies may list additional purposes as set forth in 27.404(d)(1) or if none, so state.]

(b) This Notice shall be marked on any reproduction of these data, in whole or in part.
(End of notice)

(3)(i) Notwithstanding subparagraph (g)(1) of this clause, the contract may identify and specify the delivery of restricted computer software, or the Contracting Officer may require by written request the delivery of restricted computer software that has been withheld or would otherwise be withholdable. If delivery of such computer software is so required, the Contractor may affix the following "Restricted Rights Notice" to the computer software and the Government will thereafter treat the computer software, subject to paragraphs (e) and (f) of this clause, in accordance with the Notice:

Restricted Rights Notice (Jun 1987)

(a) This computer software is submitted with restricted rights under Government Contract No. _____ (and subcontract _____, if appropriate). It may not be used, reproduced, or disclosed by the Government except as provided in paragraph (b) of this Notice or as otherwise expressly stated in the contract.

(b) This computer software may be--

(1) Used or copied for use in or with the computer or computers for which it was acquired, including use at any Government installation to which such computer or computers may be transferred;

(2) Used or copied for use in a backup computer if any computer for which it was acquired is inoperative;

(3) Reproduced for safekeeping (archives) or backup purposes;

(4) Modified, adapted, or combined with other computer software, provided that the modified, combined, or adapted portions of the derivative software incorporating restricted computer software are made subject to the same restricted rights;

(5) Disclosed to and reproduced for use by support service Contractors in accordance with subparagraphs (b)(1) through (4) of this clause, provided the Government makes such disclosure or reproduction subject to these restricted rights; and

(6) Used or copied for use in or transferred to a replacement computer.

(c) Notwithstanding the foregoing, if this computer software is published copyrighted computer software, it is licensed to the Government, without disclosure prohibitions, with the minimum rights set forth in paragraph (b) of this clause.

(d) Any other rights or limitations regarding the use, duplication, or disclosure of this computer software are to be expressly stated in, or incorporated in, the contract.

(e) This Notice shall be marked on any reproduction of this computer software, in whole or in part.

(End of notice)

(ii) Where it is impractical to include the Restricted Rights Notice on restricted computer software, the following short-form Notice may be used in lieu thereof:

Restricted Rights Notice Short Form (Jun 1987)

Use, reproduction, or disclosure is subject to restrictions set forth in Contract No. _____ (and subcontract, if appropriate) with _____ (name of Contractor and subcontractor).

(End of notice)

(iii) If restricted computer software is delivered with the copyright notice of 17 U.S.C. 401, it will be presumed to be published copyrighted computer software licensed to the Government without disclosure prohibitions, with the minimum rights set forth in paragraph (b) of this clause, unless the Contractor includes the following statement with such copyright notice: "Unpublished--rights reserved under the Copyright Laws of the United States."

(h) Subcontracting. The Contractor has the responsibility to obtain from its subcontractors all data and rights therein necessary to fulfill the Contractor's obligations to the Government under this contract. If a subcontractor refuses to accept terms affording the Government such rights, the Contractor shall promptly bring such refusal to the attention of the Contracting Officer and not proceed with subcontract award without further authorization.

(i) Relationship to patents. Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government.

I.15 PROMPT PAYMENT (FAR 52.232-25) (JUN 1997)

Notwithstanding any other payment clause in this contract, the Government will make invoice payments and contract financing payments under the terms and conditions specified in this clause. Payment shall be considered as being made on the day a check is dated or the date of an electronic funds transfer. Definitions of pertinent terms are set forth in section 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see subparagraph (a)(4) of this clause concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments--(1) Due date. (i) Except as indicated in subparagraph (a)(2) and paragraph (c) of this clause, the due date for making invoice payments by the designated payment office shall be the later of the following two events:

(A) The 30th day after the designated billing office has received a proper invoice from the Contractor (except as provided in subdivision (a)(1)(ii) of this clause).

(B) The 30th day after Government acceptance of supplies delivered or services performed by the Contractor. On a final invoice where the payment amount is subject to contract settlement actions, acceptance shall be deemed to have occurred on the effective date of the contract settlement.

(ii) If the designated billing office fails to annotate the invoice with the actual date of receipt at the time of receipt, the invoice payment due date shall be the 30th day after the date of the Contractor's invoice; provided a proper invoice is received and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(2) Certain food products and other payments. (i) Due dates on Contractor invoices for meat, meat food products, or fish; perishable agricultural commodities; and dairy products, edible fats or oils, and food products prepared from edible fats or oils are--

(A) For meat or meat food products, as defined in section 2(a)(3) of the Packers and Stockyard Act of 1921 (7 U.S.C. 182(3)), and as further defined in Pub. L. 98-181, including any edible fresh or frozen poultry meat, any perishable poultry meat food product, fresh eggs, and any perishable egg product, as close as possible to, but not later than, the 7th day after product delivery.

(B) For fresh or frozen fish, as defined in section 204(3) of the Fish and Seafood Promotion Act of 1986 (16 U.S.C. 4003(3)), as close as possible to, but not later than, the 7th day after product delivery.

(C) For perishable agricultural commodities, as defined in section 1(4) of the Perishable Agricultural Commodities Act of 1930 (7 U.S.C. 499a(4)), as close as possible to, but not later than, the 10th day after product delivery, unless another date is specified in the contract.

(D) For dairy products, as defined in section 111(e) of the Dairy Production Stabilization Act of 1983 (7 U.S.C. 4502(e)), edible fats or oils, and food products prepared from edible fats or oils, as close as possible to, but not later than, the 10th day after the date on which a proper invoice has been received. Liquid milk, cheese, certain processed cheese products, butter, yogurt, ice cream, mayonnaise, salad dressings, and other similar products, fall within this classification. Nothing in the Act limits this classification to refrigerated products. When questions arise regarding the proper classification of a specific product, prevailing industry practices will be followed in specifying a contract payment due date. The burden of proof that a classification of a specific product is, in fact, prevailing industry practice is upon the Contractor making the representation.

(ii) If the contract does not require submission of an invoice for payment (e.g., periodic lease payments), the due date will be as specified in the contract.

(3) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in subdivisions (a)(3)(i) through (a)(3)(viii) of this clause. If the invoice does not comply with these requirements, it shall be returned within 7 days after the date the designated billing office received the invoice (3 days for meat, meat food products, or fish; 5 days for perishable agricultural commodities, edible fats or oils, and food products prepared from edible fats or oils), with a statement of the reasons why it is not a proper invoice. Untimely notification will be taken into account in computing any interest penalty owed the Contractor in the manner described in subparagraph (a)(5) of this clause.

(i) Name and address of the Contractor.

(ii) Invoice date. (The Contractor is encouraged to date invoices as close as possible to the date of the mailing or transmission.)

(iii) Contract number or other authorization for supplies delivered or services performed (including order number and contract line item number).

(iv) Description, quantity, unit of measure, unit price, and extended price of supplies delivered or services performed.

(v) Shipping and payment terms (e.g., shipment number and date of shipment, prompt payment discount terms). Bill of lading number and weight of shipment will be shown for shipments on Government bills of lading.

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to be notified in the event of a defective invoice.

(viii) Any other information or documentation required by the contract (such as evidence of shipment).

(ix) While not required, the Contractor is strongly encouraged to assign an identification number to each invoice.

(4) Interest penalty. An interest penalty shall be paid automatically by the designated payment office, without request from the Contractor, if payment is not made by the due date and the conditions listed in subdivisions (a)(4)(i) through (a)(4)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday when Federal Government offices are closed and Government business is not expected to be conducted, payment may be made on the following business day without incurring a late payment interest penalty.

(i) A proper invoice was received by the designated billing office.

(ii) A receiving report or other Government documentation authorizing payment was processed, and there was no disagreement over quantity, quality, or Contractor compliance with any contract term or condition.

(iii) In the case of a final invoice for any balance of funds due the Contractor for supplies delivered or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(5) Computing penalty amount. The interest penalty shall be at the rate established by the Secretary of the Treasury under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) that is in effect on the day after the due date, except where the interest penalty is prescribed by other governmental authority (e.g., tariffs). This rate is referred to as the "Renegotiation Board Interest Rate," and it is published in the Federal Register semiannually on or about January 1 and July 1. The interest penalty shall accrue daily on the invoice principal payment amount approved by the Government until the payment date of such approved principal amount; and will be compounded in 30-day increments inclusive from the first day after the due date through the payment date. That is, interest accrued at the end of any 30-day period will be added to the approved invoice principal payment amount and will be subject to interest penalties if not paid in the succeeding 30-day period. If the designated billing office failed to notify the Contractor of a defective invoice within the periods prescribed in subparagraph (a)(3) of this clause, the due date on the corrected invoice will be adjusted by subtracting from such date the number of days taken beyond the prescribed notification of defects period. Any interest penalty owed the Contractor will be based on this adjusted due date. Adjustments will be made by the designated payment office for errors in calculating interest penalties.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor, Government acceptance shall be deemed to have occurred constructively on the 7th day (unless otherwise specified in this contract) after the Contractor delivered the supplies or performed the services in accordance with the terms

and conditions of the contract, unless there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. In the event that actual acceptance occurs within the constructive acceptance period, the determination of an interest penalty shall be based on the actual date of acceptance. The constructive acceptance requirement does not, however, compel Government officials to accept supplies or services, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The following periods of time will not be included in the determination of an interest penalty:

(A) The period taken to notify the Contractor of defects in invoices submitted to the Government, but this may not exceed 7 days (3 days for meat, meat food products, or fish; 5 days for perishable agricultural commodities, dairy products, edible fats or oils, and food products prepared from edible fats or oils).

(B) The period between the defects notice and resubmission of the corrected invoice by the Contractor.

(C) For incorrect electronic funds transfer (EFT) information, in accordance with the EFT clause of this contract.

(iii) Interest penalties will not continue to accrue after the filing of a claim for such penalties under the clause at 52.233-1, Disputes, or for more than 1 year. Interest penalties of less than \$1 need not be paid.

(iv) Interest penalties are not required on payment delays due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance or on amounts temporarily withheld or retained in accordance with the terms of the contract. Claims involving disputes, and any interest that may be payable, will be resolved in accordance with the clause at 52.233-1, Disputes.

(6) Prompt payment discounts. An interest penalty also shall be paid automatically by the designated payment office, without request from the Contractor, if a discount for prompt payment is taken improperly. The interest penalty will be calculated as described in subparagraph (a)(5) of this clause on the amount of discount taken for the period beginning with the first day after the end of the discount period through the date when the Contractor is paid.

(7) Additional interest penalty. (i) A penalty amount, calculated in accordance with subdivision (a)(7)(iii) of this clause, shall be paid in addition to the interest penalty amount if the Contractor--

(A) Is owed an interest penalty of \$1 or more;

(B) Is not paid the interest penalty within 10 days after the date the invoice amount is paid; and

(C) Makes a written demand to the designated payment office for additional penalty payment, in accordance with subdivision (a)(7)(ii) of this clause, postmarked not later than 40 days after the invoice amount is paid.

(ii)(A) Contractors shall support written demands for additional penalty payments with the following data. No additional data shall be required. Contractors shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) Demands must be postmarked on or before the 40th day after payment was made, except that--

(1) If the postmark is illegible or nonexistent, the demand must have been received and annotated with the date of receipt by the designated payment office on or before the 40th day after payment was made; or

(2) If the postmark is illegible or nonexistent and the designated payment office fails to make the required annotation, the demand's validity will be determined by the date the Contractor has placed on the demand; provided such date is no later than the 40th day after payment was made.

(iii)(A) The additional penalty shall be equal to 100 percent of any original late payment interest penalty except--

(1) The additional penalty shall not exceed \$5,000;

(2) The additional penalty shall never be less than \$25; and

(3) No additional penalty is owed if the amount of the underlying interest penalty is less than \$1.

(B) If the interest penalty ceases to accrue in accordance with the limits stated in subdivision (a)(5)(iii) of this clause, the amount of the additional penalty shall be calculated on the amount of interest penalty that would have accrued in the absence of these limits, subject to the overall limits on the additional penalty specified in subdivision (a)(7)(iii)(A) of this clause.

(C) For determining the maximum and minimum additional penalties, the test shall be the interest penalty due on each separate payment made for each separate contract. The maximum and minimum additional penalty shall not be based upon individual invoices unless the invoices are paid separately. Where payments are consolidated for disbursing purposes, the maximum and minimum additional penalty determination shall be made separately for each contract therein.

(D) The additional penalty does not apply to payments regulated by other Government regulations (e.g., payments under utility contracts subject to tariffs and regulation).

(b) Contract financing payments--(1) Due dates for recurring financing payments. If this contract provides for contract financing, requests for payment shall be submitted to the designated billing office as specified in this contract or as directed by the Contracting Officer. Contract financing payments shall be made on the [insert day as prescribed by Agency head; if not prescribed, insert 30th day] day after receipt of a proper contract financing request by the designated billing office. In the event that an audit or other review of a specific financing request is required to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the due date specified.

(2) Due dates for other contract financing. For advance payments, loans, or other arrangements that do not involve recurring submissions of contract financing requests, payment shall be made in accordance with the corresponding contract terms or as directed by the Contracting Officer.

(3) Interest penalty not applicable. Contract financing payments shall not be assessed an interest penalty for payment delays.

(c) Fast payment procedure due dates. If this contract contains the clause at 52.213-1, Fast Payment Procedure, payments will be made within 15 days after the date of receipt of the invoice.

I.16 BANKRUPTCY (FAR 52.242-13) (JUL 1995)

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish, by certified mail or electronic commerce method authorized by the contract, written notification of the bankruptcy to the Contracting Officer responsible for administering the contract. This notification shall be furnished within five days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of Government contract numbers and contracting offices for all Government contracts against which final payment has not been made. This obligation remains in effect until final payment under this contract.

I.17 SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS (FAR 52.244-6) (OCT 1998)

(a) Definitions.

"Commercial item," as used in this clause, has the meaning contained in the clause at 52.202-1 Definitions.

"Subcontract," as used in this clause, includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c) Notwithstanding any other clause of this contract, the Contractor is not required to include any FAR provision or clause, other than those listed below to the extent they are applicable and as may be required to establish the reasonableness of prices under Part 15, in a subcontract at any tier for commercial items or commercial components:

- (1) 52.222-26, Equal Opportunity (E.O. 11246);
- (2) 52.222-35, Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era (38 U.S.C. 4212(a));
- (3) 52.222-36, Affirmative Action for Workers with Disabilities (29 U.S.C. 793); and

(4) 52.247-64, Preference for Privately Owned U.S.-Flagged Commercial Vessels (46 U.S.C. 1241) (flow down not required for subcontracts awarded beginning May 1, 1996).

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

I.18 OMBUDSMAN (NASA 1852.215-84) (OCT 1996)

An ombudsman has been appointed to hear and facilitate the resolution of concerns from offerors, potential offerors, and Contractors during the preaward and postaward phases of this acquisition. When requested, the ombudsman will maintain strict confidentiality as to the source of the concern. The existence of the ombudsman is not to diminish the authority of the Contracting Officer, the Source Evaluation Board, or the selection official. Further, the ombudsman does not participate in the evaluation of proposals, the source selection process, or the adjudication of formal contract disputes. Therefore, before consulting with an ombudsman, interested parties must first address their concerns, issues, disagreements, and/or recommendations to the Contracting Officer for resolution. If resolution cannot be made by the Contracting Officer, interested parties may contact the installation ombudsman, Belinda Adams, direct inquiries to Sandra S. Ray at (757) 864-2428. Concerns, issues, disagreements, and recommendations which cannot be resolved at the installation may be referred to the NASA ombudsman, the Deputy Administrator for Procurement, Thomas S. Luedtke, at 202-358-2090. Please do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the Contracting Officer or as specified elsewhere in this document.

I.19 SAFETY AND HEALTH (NASA 1852.223-70) (MAR 1997)

(a) The Contractor shall take all reasonable safety and health measures in performing under this contract. The Contractor shall comply with all Federal, State, and local laws applicable to safety and health in effect on the date of this contract and with the safety and health standards, specifications, reporting requirements, and provisions set forth in the contract Schedule.

(b) The Contractor shall take or cause to be taken any other safety and health measures the Contracting Officer may reasonably direct. To the extent that the Contractor may be entitled to an equitable adjustment for those measures under the terms and conditions of this contract, the equitable adjustment shall be determined pursuant to the procedures of the changes clause of this contract; provided, that no adjustment shall be made under this Safety and Health clause for any change for which an equitable adjustment is expressly provided under any other provision of the contract.

(c) The Contractor shall immediately notify and promptly report to the Contracting Officer or a designee any accident, incident, or exposure resulting in fatality, lost-time occupational injury, occupational disease, contamination of property beyond any stated acceptable limits set forth in the contract Schedule, or property loss of \$25,000 or more arising out of work performed under this contract. The Contractor is not required to include in any report an expression of opinion as to the fault or negligence of any employee. Service contractors (excluding construction contracts) shall provide quarterly reports specifying lost-time frequency rate, number of lost-time injuries, exposure, and accident/incident dollar losses as specified in the contract Schedule. The Contractor shall investigate all work-related incidents or accidents to the extent necessary to determine their causes and furnish the Contracting Officer a report, in such form as the Contracting Officer may require, of the investigative findings and proposed or completed corrective actions.

(d)(1) The Contracting Officer may notify the Contractor in writing of any noncompliance with this clause and specify corrective actions to be taken. The Contractor shall promptly take and report any necessary corrective action.

(2) If the Contractor fails or refuses to institute prompt corrective action in accordance with subparagraph (d)(1) of this clause, the Contracting Officer may invoke the stop-work order clause in this contract or any other remedy available to the Government in the event of such failure or refusal.

(e) The Contractor (or subcontractor or supplier) shall insert the substance of this clause, including this paragraph (e) and any applicable Schedule provisions, with appropriate changes of designations of the parties, in subcontracts of every tier that (1) amount to \$1,000,000 or more (unless the Contracting Officer makes a written determination that this is not required), (2) require construction, repair, or alteration in excess of \$25,000, or (3) regardless of dollar amount, involve the use of hazardous materials or operations.

(f) Authorized Government representatives of the Contracting Officer shall have access to and the right to examine the sites or areas where work under this contract is being performed in order to determine the adequacy of the Contractor's safety and health measures under this clause.

(g) As a part of the Contractor's safety plan (and health plan, when applicable) and to the extent required by the Schedule, the Contractor shall furnish a list of all hazardous operations to be performed, including operations indicated in paragraphs (a) and (b) of this clause, and a list of other major or key operations required or planned in the performance of the contract, even though not deemed hazardous by the Contractor. NASA and the Contractor shall jointly decide which operations are to be considered hazardous, with NASA as the final authority. Before hazardous operations commence, the Contractor shall submit for NASA concurrence either or both of the following, as required by the contract Schedule or by the Contracting Officer:

- (1) Written hazardous operating procedures for all hazardous operations.
- (2) Qualification Standards for personnel involved in hazardous operations.

I.20 FINANCIAL REPORTING OF NASA PROPERTY IN THE CUSTODY OF CONTRACTORS (NASA 1852.245-73) (SEP 1996)

(a) The Contractor shall submit annually a NASA Form 1018, NASA Property in the Custody of Contractors, in accordance with 18-45.505-14, the instructions on the form, and subpart 1845-71. Subcontractor use of NF 1018 is not required by this clause; however, the Contractor shall include data on property in the possession of subcontractors in the annual NF 1018.

(b) If administration of this contract has been delegated to the Department of Defense, the original of NASA Form 1018 shall be submitted to the NASA, LaRC Financial Management Officer, Mail Stop 175 and three copies shall be sent concurrently through the DOD Property Administrator to the address below. If the contract is administered by NASA, the original of NF 1018 shall be submitted to the LaRC Financial Management Office and three copies shall be sent concurrently and directly to the following office:

ATTN: INDUSTRIAL PROPERTY OFFICE
NASA LANGLEY RESEARCH CENTER
MAIL STOP 377
HAMPTON VA 23681-2199

(c) The annual reporting period shall be from October 1 of each year to September 30 of the following year. The report shall be submitted by October 31. The information contained in these reports is entered into the NASA accounting system to reflect current asset values for agency financial statement purposes. Therefore, it is essential that required reports be received no later than October 31. The Contracting Officer may, in the Government's interest, withhold payment until a reserve not exceeding \$25,000 or 5 percent of the amount of the contract, whichever is less, has been set-aside. If the Contractor fails to submit annual NF 1018 reports when due, such reserve shall be withheld until the Contracting Officer has determined that the required reports have been received by the Government. The withholding of any amount or the subsequent payment thereof shall not be construed as a waiver of any Government right.

(d) A final report is required within 30 days after disposition of all property subject to reporting when the contract performance period is complete.

I.21 MATERIAL INSPECTION AND RECEIVING REPORT (NASA 1852.246-72) (JUN 1995)

(a) At the time of each delivery to the Government under this contract, the Contractor shall furnish a Material Inspection and Receiving Report (DD Form 250 series) prepared in three copies, an original and copies.

(b) The Contractor shall prepare the DD Form 250 in accordance with NASA FAR Supplement 18-46.672-1. The Contractor shall enclose the copies of the DD Form 250 in the package or seal them in a waterproof envelope which shall be securely attached to the exterior of the package in the most protected location.

(c) When more than one package is involved in a shipment, the Contractor shall list on the DD Form 250, as additional information, the quantity of packages and the package numbers. The Contractor shall forward the DD Form 250 with the lowest numbered package of the shipment and print the words "CONTAINS DD FORM 250" on the package.

PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS**Section J - List Of Attachments**

- Exhibit A Contract Documentation Requirements, 3 pages
- Exhibit B Procedures for the Preparation and Approval of Contractor Reports for Langley Research
Center, Form PROC./P-72, June 1998, 4 pages
- Exhibit C Subcontracting Plan, March 2000, 4 pages

EXHIBIT A

CONTRACT DOCUMENTATION REQUIREMENTS

I. DOCUMENTATION PREPARATION/SUBMISSION INSTRUCTIONS

A. Monthly Technical Letter Progress Report--The Contractor shall submit monthly technical letter reports for each active Task Order describing progress of the task to date, noting all technical areas in which effort is being directed and indicating the status of work within these areas. Tasks may be summarized in one letter report unless otherwise stipulated in individual Task Orders. Reports shall be in narrative form, brief and informal in content. These reports shall include:

1. A narrative statement of work accomplished during the report period.
2. A statement of current and potential problem areas and proposed corrective action.
3. A discussion of work to be performed during the next report period.
4. Current Task Order estimated cost, current actual cost to date and estimated cost to complete the Task Order.

The monthly progress report shall be submitted within 15 days after the end of each calendar monthly report period. A monthly progress report shall not be required for the period in which the final report is due.

B. Monthly Financial Management Report

1. The Contractor shall submit a monthly financial management report as provided by the Section G clause entitled "NASA Contractor Financial Management Reporting." This report shall be submitted utilizing NASA Form 533M, Monthly Contractor Financial Management Report, in accordance with submission instructions contained on the reverse side of the form. (Columns 8a and 8b, 533M, shall contain estimates for the following two successive months for the reporting a. and b. of Paragraph 2. below.)

2. For this Task Order contract a 533M shall be provided for the reporting levels identified below:

- a. Each Authorized Cost Type Task Order
- b. Each Authorized Fixed-Price Task Order (Total Price only)
- c. Contract Total (Includes the sum of Items a. and b. above) Column 9b shall reflect estimated cost of \$___ plus incentive fee of \$___.
- d. Due not later than the 10th operating day following the close of the Contractor's accounting period being reported.
- e. Each 533M shall include a narrative explanation for variances exceeding 10 percent between planned dollars and actual dollars for each Task Order.

3. In addition, cost detail associated with the following elements shall be included in each cost reimbursement task order, if applicable.

- a. Direct Labor Hours
- b. Direct Labor Dollars
- c. Overhead
- d. G&A
- e. Subcontract
- f. Material
- g. Travel
- h. ODC
- i. FCCOM
- j. Total Estimated Cost
- k. Fee
- l. Total Estimated Cost and Fee

C. **Quarterly Financial Management Report**--The Contractor shall submit a financial report at the contract level detailed by categories specified in Paragraph B. above on NASA Form 533Q in accordance with the instructions contained on the reverse side of the form.

D. **Subcontracting Reports** --The Contractor shall submit Standard Form 294, Subcontracting Report for Individual Contracts, and Standard Form 295, Summary Subcontractor Report, in accordance with the instructions on the reverse of the form.

In addition to the instructions on the reverse of the SF 295, the Contractor is required to comply with Clause 1852.219-75, Small Business Subcontracting Reporting.

E. **Final Reports**--Each Task Order may require the Contractor to submit a final report, either formal or informal, which documents and summarizes the results. When a formal final Contractor report is required, it shall be submitted in accordance with the instructions contained in Exhibit B, Procedures for the Preparation and Approval of Contractor Reports for Langley Research Center, Form PROC./P-72. The specified number of approval copies shall be submitted within the time specified in the Task Orders.

F. **Federal Contractor Veterans Employment Report**--In compliance with Clause 52.222-37, Employment Reports on Disabled Veterans and Veterans of the Vietnam Era, the Contractor shall submit the Federal Contractor Veterans Employment Report (VETS-100) as required by this clause.

G. **Property in the Custody of Contractors (NASA Form 1018)**--The Contractor shall submit the NASA Form 1018 no later than October 31 of each year in accordance with the Section I clause entitled "Financial Reporting of NASA Property in the Custody of Contractors."

H. **Year 2000 Compliance Documentation**—In accordance with the clause in H.7 the Contractor shall provide for the review and approval of the Contracting Officer the documentation that demonstrates Year 2000 compliance. This documentation shall be provided with the deliverable hardware/software identified in this contract.

I. **Small Disadvantaged Business (SDB) Participation Report**--The Contractor shall submit and SDB Participation Report in accordance with the Section I, Clause 52.219-25, Small Disadvantaged Business Program--Disadvantaged Status and Reporting. The Contractor shall report on the participation of SDB concerns using either Option Form 312, Small Disadvantaged Business Participation Report, or the Contractor's own format providing the same information as the Optional Form 312. This report shall be submitted every 12 months during the contract period.

J. **Quality System Documents (ISO 9001)** - The Contractor shall submit the following ISO-compliant documents in accordance with H.8 not later than nine months from the effective date of the contract:

Quality System Manual

Quality System Procedures - these procedures shall address: (1) contract and subcontract management, (2) customer requirement review and execution, (3) task management, including work order generation and processing, (4) document control, (5) handling of customer supplied product, (6) corrective and preventive action, (7) training of employees, and (8) design control.

II. DOCUMENT DISTRIBUTION REQUIREMENTS

A. Unless otherwise specified elsewhere in this contract, reports and other documentation shall be submitted f.o.b. destination as specified below, addressed as follows:

National Aeronautics and Space Administration
Langley Research Center
Attn:
Contract NAS1-
Hampton, VA 23681-2199

B. The following letter codes designate the recipients of reports and other documentation which are required to be delivered to Langley Research Center by the Contractor:

A--Contract Administrator, Mail Stop 126
B--Contracting Officer Technical Representative, Mail Stop
C--New Technology Representative, Mail Stop 212
D--Patent Counsel, Mail Stop 212
E--Cost Accounting, Mail Stop 135 (via Mail Stop 175)
F--According to Instructions on Form
G--Small Business Specialist, Mail Stop 144
H--Property Administrator, Mail Stop 377
I--Task Monitor, Mail Stop - In accordance with individual Task Orders

C. The following are the distribution requirements for reports and other documentation required to be delivered f.o.b. destination. The numeral following the letter code specifies the number of copies to be provided:

DOCUMENT	LETTER CODE AND DISTRIBUTION
Monthly Progress Report	A-1, B-2, I-1
Financial Management Report (Monthly/Quarterly)	A-1, B-2, E-2
New Technology or Patent Rights Reports	A-1, B-2, C-1, D-1
Subcontracting Report for Individual Contracts (Standard Form 294)	A-1, G-1
Summary Subcontractor Report (Standard Form 295)	F-1
Report of Government-Owned/Contractor Held Property (NASA Form 1018)	H-4

Federal Contractor Veterans Employment Report (VETS-100)

F-1

Final Report (Final Copy)

A-*, B-*, I-*

Final Report (Approval Copy)

B-5

Informal Final Report

A-*, B-*, I-*

Year 2000 Documentation

A*

Small Disadvantaged Business (SDB) Participation Report

A-1, G-1

Quality Plan

A-1, B-2

*As specified in the Task Order

EXHIBIT B

PROCEDURES FOR THE PREPARATION AND APPROVAL OF CONTRACTOR REPORTS FOR LANGLEY RESEARCH CENTER PROC./P-72

GUIDELINES: The following documents or subsequent editions in effect on date of contract shall serve as the basis for preparation of Contractor Reports:

NPG 2200.2A NASA Procedures and Guidelines

(<http://www.sti.nasa.gov/npghome3.htm>)

DoD 5220.22-M, National Industrial Security Program Operating Manual
(NISPOM), January 1995

- **FORMAT AND ORGANIZATION:** The format and organization of a Contractor Report should be consistent and follow the practices recommended in the NASA Procedures and Guidelines. For questions concerning format, contact Langley Research Information Management at (757) 864-2518. A Report Documentation Page (RDP) (Standard Form 298) shall be included as the last page in the report. The RDP is available electronically at (<http://www.sti.nasa.gov/npghome3.htm>). A sample of this form is attached.

TRADEMARKS: U.S. Government policy prohibits endorsing or criticizing commercial products in its publications. Use of trademarks is discouraged. If a trademark must be used, its owner must be credited and the trademark must be used as an adjective modifying the generic name.

REFERENCES: Material that is not obtainable or available must not be listed in the references. Documents of NASA contracts published as in-house documents must be referenced as NASA CR's, not as NASA Contract Numbers.

SECURITY: Security markings, when necessary, shall be consistent with DD Form 254, the directive issued by the Security Classification Officer, and shall conform to requirements established in the DoD NISPOM. For questions concerning security classification, contact LaRC Security Classification Officer at (757) 864-3420.

APPROVAL COPIES.

1. Upon completion of a report, the Contractor shall submit five (5) approval copies to the Contracting Officer's Technical Representative (COTR) for review and approval by NASA. These copies may be reproduced on both sides of sheet where feasible and assembled by an economical means by the Contractor. **Notify the Langley Contracting Officer when the approval copies are submitted.**
2. The Contractor will be notified of acceptance of the approval copy of the report by the COTR within thirty (30) days. Approval will be contingent upon changes required by NASA.

FINAL (REVISED) COPIES:

1. Upon receipt of acceptance from the Langley COTR, the Contractor shall prepare an original manuscript incorporating the changes required by NASA.
2. The Contractor shall submit the original manuscript and up to five (5) duplicate copies to the Langley COTR within thirty (30) days after receipt of acceptance. Electronic PostScript files for the cover and report (including figures and tables), and Report Documentation Page source file shall also be submitted to the Langley COTR, if available. **Notify the Langley Contracting Officer when the final revised report is submitted.**

Contact the Langley COTR for information on transmitting the electronic files by file transfer protocol (FTP). The electronic files may be saved on a 3.5-inch, high density, double-sided disk(s) and submitted with the final manuscript. The disk(s) and files should be labeled to properly identify the report.

ORIGINAL MANUSCRIPT: The original manuscript of a Contractor Report shall consist of a single-sided, unbound, laser printed copy of the text with all tables, figures, artwork, graphs, photos and captions included on the pages. Photographs shall be either scanned electronic images or unscreened glossy prints that have been cut and mounted on the pages. The manuscript shall be single spaced with consecutive page numbers on all pages, excluding the cover. The manuscript shall be printed on 8-1/2 by 11 paper with a maximum page image area of 7-1/8 by 9-3/16 inches

REPORT DOCUMENTATION PAGEApproved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE		3. REPORT TYPE AND DATES COVERED	
4. TITLE AND SUBTITLE				5. FUNDING NUMBERS	
6. AUTHOR(S)					
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES					
12a. DISTRIBUTION/AVAILABILITY STATEMENT (If contract specifies restricted distribution, state restriction instead of Unclassified-Unlimited.)				12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words)					
(Provide an unclassified abstract not to exceed 200 words)					
14. SUBJECT TERMS				15. NUMBER OF PAGES	
				16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT		20. LIMITATION OF ABSTRACT	

INSTRUCTIONS FOR COMPLETING SF 298

The Report Documentation (RDP) is used in announcing and cataloging reports. It is important that this information be consistent with the rest of the report, particularly the cover and title page. Instructions for filling each block of the form follow. It is important to *stay within the lines to meet optical scanning requirements*.

Block 1. Agency Use Only (*Leave blank*).

Block 2. Report Date. Full publication date including day, month, and year, if available (e.g., 1 Jan 88). Must cite at least the year.

Block 3. Type of Report and Dates Covered. State whether report is interim, final, etc. If applicable, enter inclusive report dates (e.g., 10 Jul 87 - 30 Jun 88).

Block 4. Title and Subtitle. A title is taken from the part of the report that provides the most meaningful and complete information. When a report is prepared in more than one volume, repeat the primary title, add volume number, and include subtitle for the specific volume. On classified documents enter the title classification in parentheses.

Block 5. Funding Numbers. To include contract and grant numbers; may include program element number(s), project number(s), task number(s), and work unit number(s). Use the following labels:

C - Contract PR - Project
G - Grant TA - Task
PE - Program WU - Work Unit
Element Accession No.

Block 6. Author(s). Name(s) of person(s) responsible for writing the report, performing the research, or credited with the content of the report. If editor or compiler, this should follow the name(s).

Block 7. Performing Organization Name(s) and Address(es). Self-explanatory.

Block 8. Performing Organization Report Number. Enter the unique alphanumeric report number(s) assigned by the organization performing the report.

Block 9. Sponsoring/Monitoring Agency Name(s) and Address(es). Self-explanatory.

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EXHIBIT C

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